

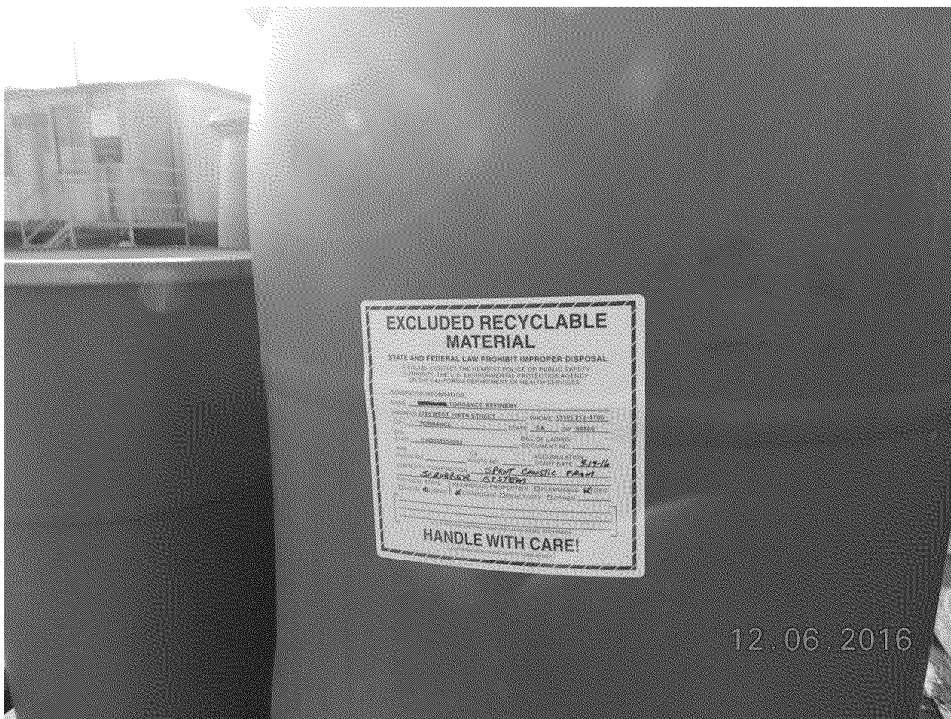
# **Appendix B**

## **Inspection Photographs**

**Region 9 Enforcement Division**  
**INSPECTION REPORT PHOTOGRAPH LOG**



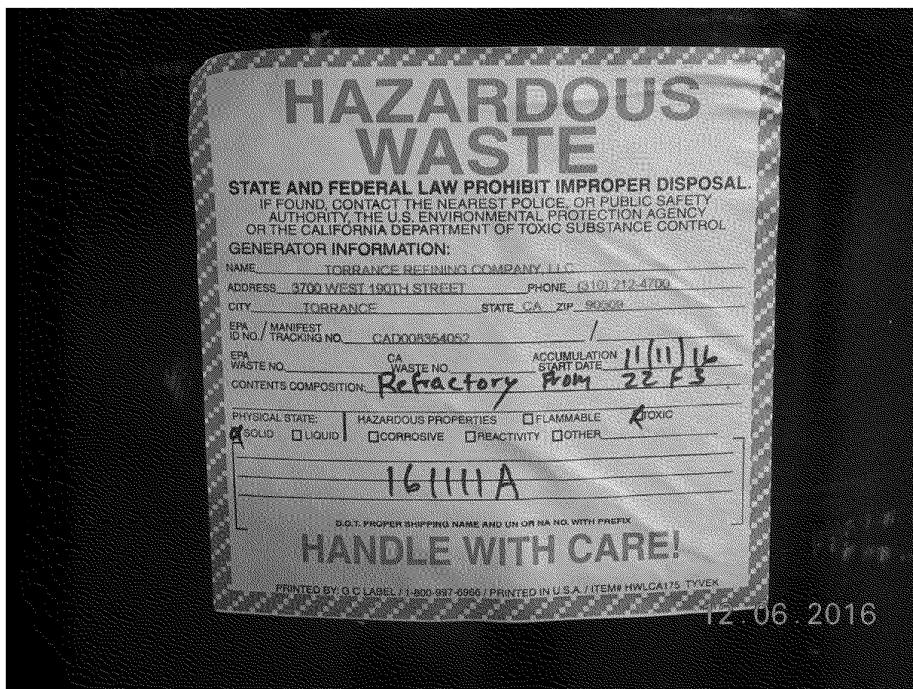
**Photograph 1.** Torrance Refining Company



**Photograph 2.** Hazardous Waste Pad (Accumulation Area), Excluded Recyclable Material (ERM) caustic, scrubber system.



**Photograph 3.** Hazardous Waste Pad (Accumulation Area), ERM, caustic.



**Photograph 4.** Hazardous Waste Pad, Hazardous waste accumulation label, refractory from 22F3 (heater coker), Clean Harbors clean out the line, waste generated is considered California Hazardous Waste only.



**HAZARDOUS WASTE**

STATE AND FEDERAL LAW PROHIBIT IMPROPER DISPOSAL.  
IF FOUND, CONTACT THE NEAREST POLICE, OR PUBLIC SAFETY  
AUTHORITY, THE U.S. ENVIRONMENTAL PROTECTION AGENCY  
OR THE CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCE CONTROL.

GENERATOR INFORMATION:  
NAME: TORRANCE REFINING COMPANY, LLC  
ADDRESS: 3700 WEST 190TH STREET PHONE: (310) 212-4700  
CITY: TORRANCE STATE: CA ZIP: 90509

EPA / MANIFEST ID NO. / TRACKING NO. CAD008354052 /  
EPA WASTE NO. CA WASTE NO. ACCUMULATION START DATE 12-2-16  
CONTENTS COMPOSITION: SPENT FILTERS FROM 295B

PHYSICAL STATE: ☒ SOLID ☐ LIQUID HAZARDOUS PROPERTIES: ☐ FLAMMABLE ☒ TOXIC  
☐ CORROSIVE ☐ REACTIVITY ☐ OTHER

16/202F

D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX  
**HANDLE WITH CARE!**

PRINTED BY G.C. LABEL / 1-800-297-6966 / PRINTED IN U.S.A. / ITEM: HHLCA175 TYVEK

12.06.2016

**Photograph 5.** Hazardous Waste Pad, Hazardous waste accumulation label – spent filters from 295B Sulfur Recovery Unit (SRU) – non RCRA.

**OIL-BEARING MATERIAL**

STATE AND FEDERAL LAW PROHIBIT IMPROPER DISPOSAL.  
IF FOUND, CONTACT THE NEAREST POLICE, OR PUBLIC SAFETY  
AUTHORITY, THE U.S. ENVIRONMENTAL PROTECTION AGENCY  
OR THE CALIFORNIA DEPARTMENT OF HEALTH SERVICES.

GENERATOR INFORMATION:  
NAME: TORRANCE REFINING COMPANY, LLC  
ADDRESS: 3700 WEST 190TH STREET PHONE: (310) 212-4700  
CITY: TORRANCE STATE: CA ZIP: 90509

EPA ID NO. CAD008354052  
EPA WASTE NO. CA WASTE NO. ACCUMULATION START DATE 12-11-16  
CONTENTS COMPOSITION: SOLIDS FROM BUNDLE WASH

PHYSICAL STATE: ☒ SOLID ☐ LIQUID HAZARDOUS PROPERTIES: ☐ FLAMMABLE ☒ TOXIC  
☐ CORROSIVE ☐ REACTIVITY ☐ OTHER

D.O.T. PROPER SHIPPING NAME AND UN OR NA NO. WITH PREFIX  
**HANDLE WITH CARE!**

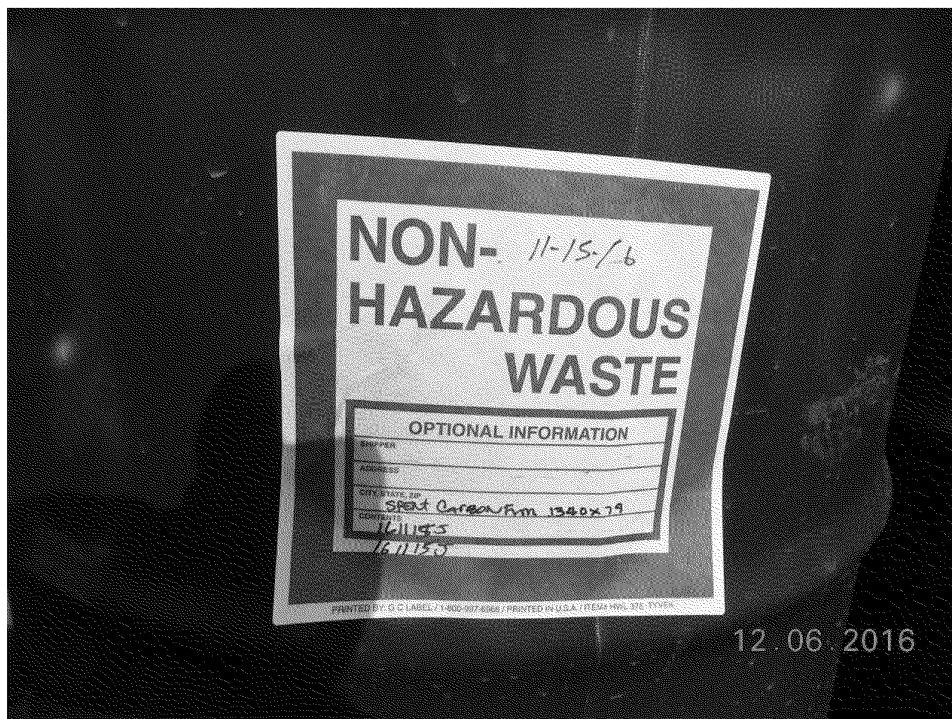
CALIFORNIA HEALTH AND SAFETY CODE 26149

12.06.2016

**Photograph 6.** Hazardous Waste Pad, Oil Bearing Material (OBM) – solids from bundle cleaning pad goes back to the coker.



**Photograph 7.** Hazardous Waste Pad, Free Hydrocarbon Product (FHP) Well Water from groundwater cleanup, sent to Crosby and Overton as non-hazardous. 13 containers, 250 gallons/container.



**Photograph 8.** Hazardous Waste Pad, Drum – non hazardous spent carbon from Envirex by tank farm.



**Photograph 9.** Hazardous Waste Pad, Spent carbon from 28C107 (sulfur unit) loading rack



**Photograph 10.** Hazardous Waste Pad, 21F7 - Coker heater sludge in white roll off bin (approximately 20 yards)



12.06.2016

ED\_001593\_00016407



**Photograph 13.** Hazardous Waste Pad, looking west.



**Photograph 14.** Hazardous Waste Pad, looking west.



**Photograph 15.** Bundle Wash Pad, “cobra” hydro-blast equipment to clean the heat exchanger bundle.



**Photograph 16.** Staging area for bundles to be cleaned, next to the Bundle Wash Pad.





**Photograph 17.** Same area as Photograph 16, Bundle Wash Pad in the background



16

**Photograph 18.** Pump for the below grade sump on the Bundle Wash Pad

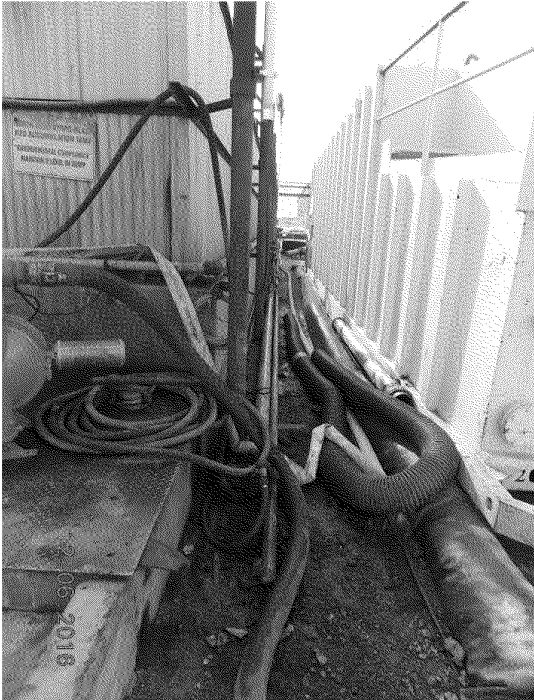




**Photograph 19.** Signage for the Bundle Wash Pad



**Photograph 20** same as photograph 19



**Photograph 21** Hose of pump pumping sludge from the sump at the Bundle Wash Pad. Sludge is pumped into a white baker tank on the right.



**Photograph 22** Sump where the Bundle Pad Cleaning sludge is accumulated in



**Photograph 23** Baker tank where the sludge from the Bundle Wash Pad sump is pumped into



**Photograph 24** Baker tank to the right, left is the bundle wash pad





**Photograph 25** Perimeter of the Bundle Wash Pad, facing west, solids from heat exchanger bundle cleaning – K050. Pad is about 100'x71'



**Photograph 26** Bundle Wash Pad - Narrow trench at back wall with solids from heat exchanger bundle cleaning – K050.



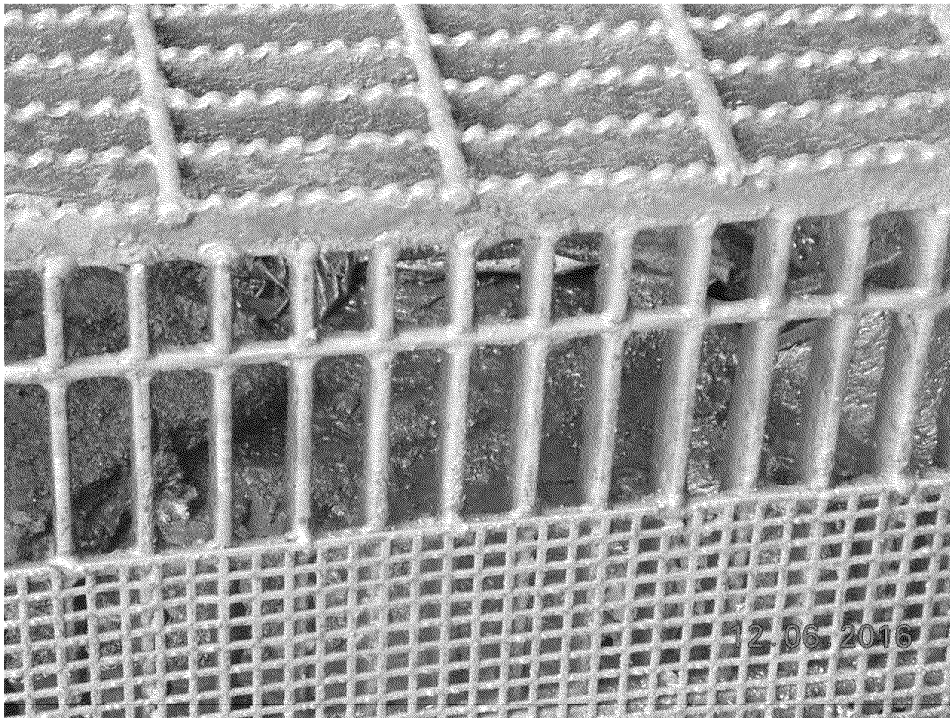
**Photograph 27** Bundle Wash Pad – trench with solid -K050, show from other direction.



**Photograph 28** cleaning the “dollar plate” that was part of the heat exchanger.



**Photograph 29** metal mesh box (2'x2') located at the sump at the northwest corner of the bundle wash pad.



**Photograph 30** close up of the metal mesh box in photograph 29





**Photograph 31** same metal mesh box as in photograph 30

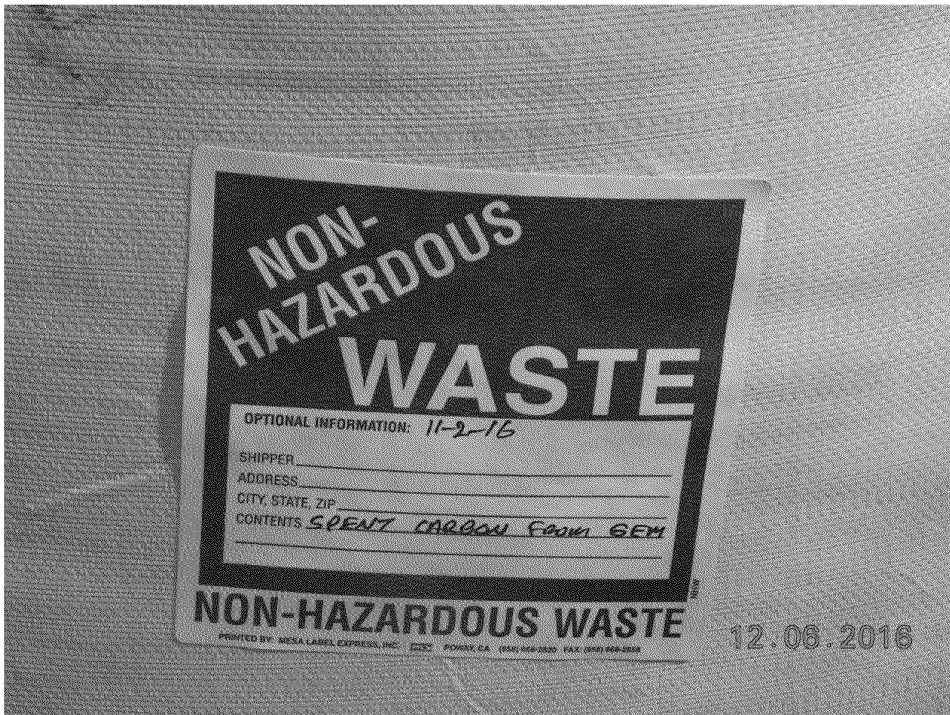


**Photograph 32** Bundle wash pad, facing west.





**Photograph 33** GEM spent carbon, 7 super sacks, – at Hazardous Waste Storage Pad (South Pad)



**Photograph 34** Label of one of GEM spent carbon super sacks in photograph 33.



**Photograph 35** 28 super sacks of GEM spent carbon at the South Pad



**Photograph 36** GEM carbon close up

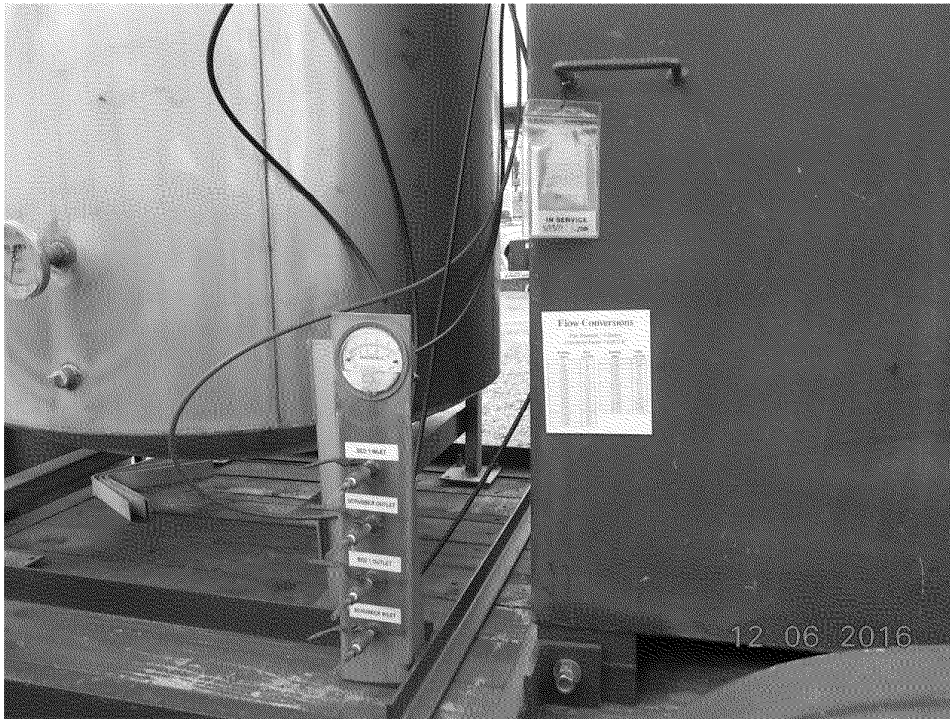


Photograph 37 Resid Loading Area – source of GEM carbon in photograph 34



Photograph 38 Vapor Absorber Unit (stainless steel tank) which contains a carbon bed for VOCs emissions control at the Resid Loading Area





Photograph 39 Vapor Absorber Unit (stainless steel tank) which contains a carbon bed for VOCs emissions control. Blue tank contains spent carbon



Photograph 40 closer up of the tag in photograph 39



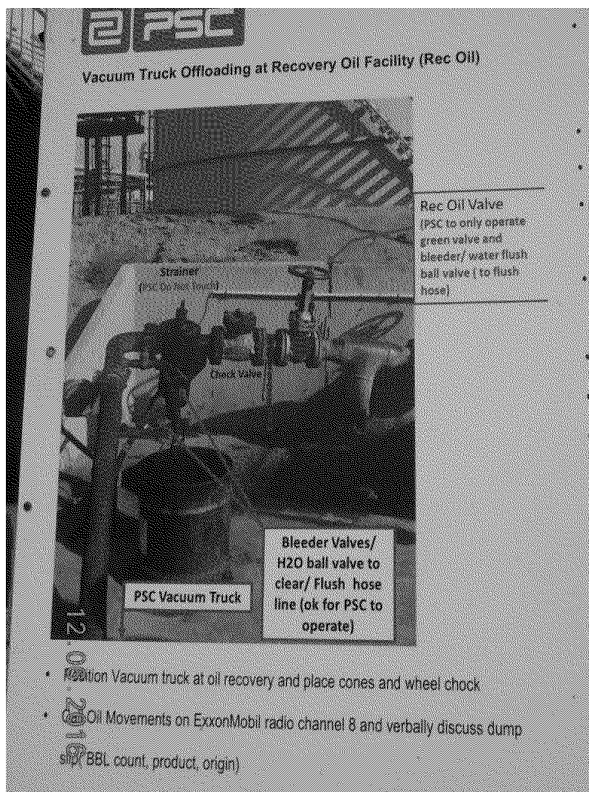
Photograph 41 closer up of the tag in photograph 39 "spent canisters may contain benzene"



Photograph 42 GEM mobile treatment unit (vapor control) at Resid Loading Area

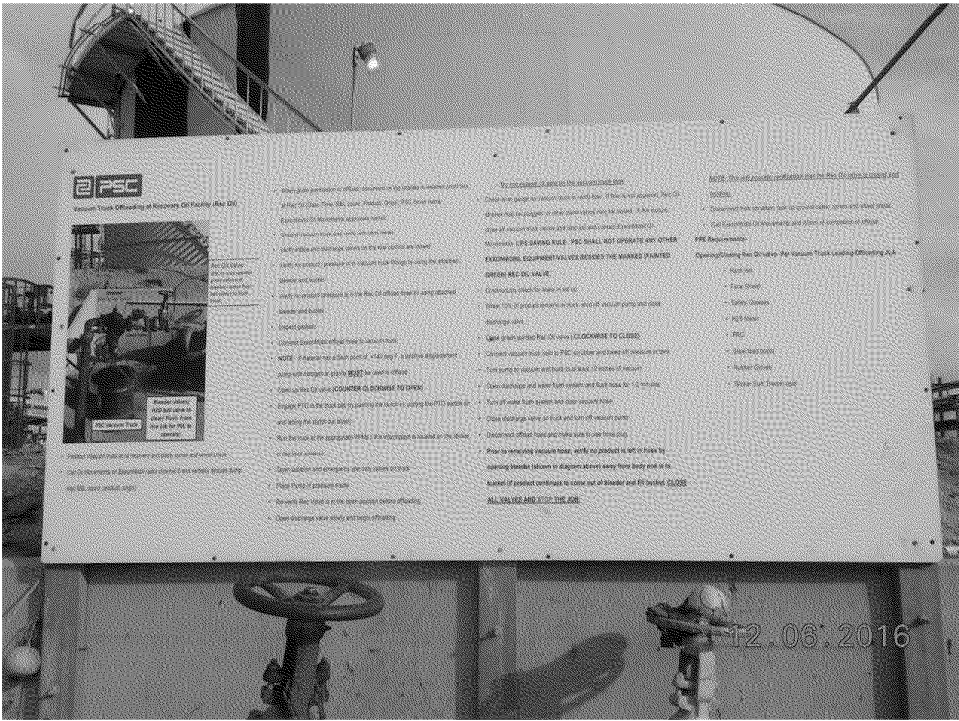


Photograph 43 Oil Recovery Unit//Vacuum Truck Off-Loading Area

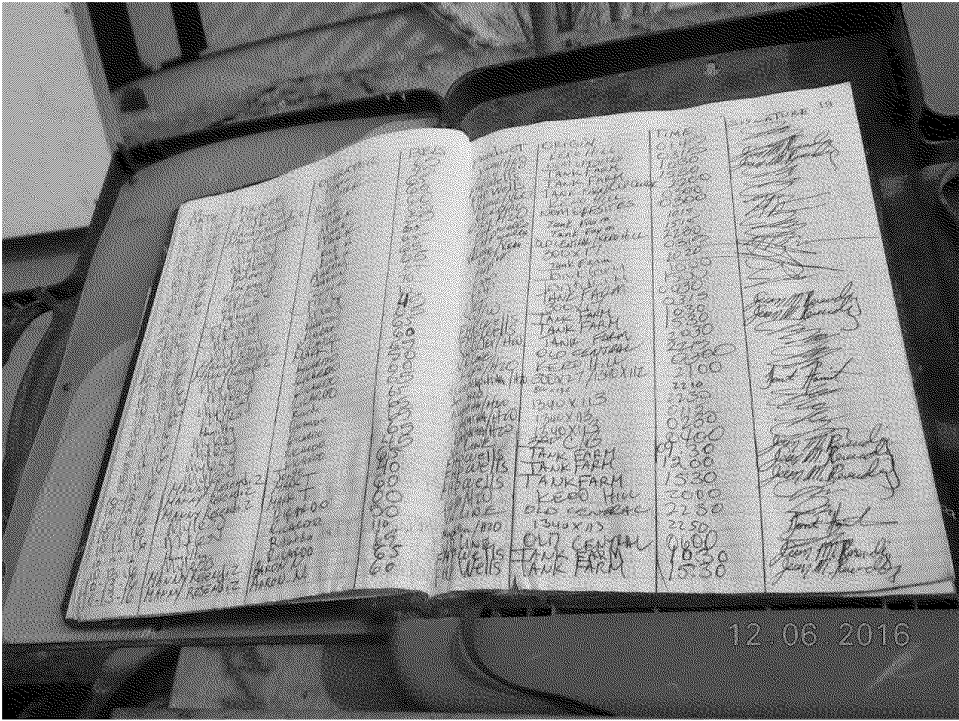


Photograph 44 Procedures for handling materials from vacuum trucks for oil recovery – posted signage at the Oil Recovery Unit, managed by PSC



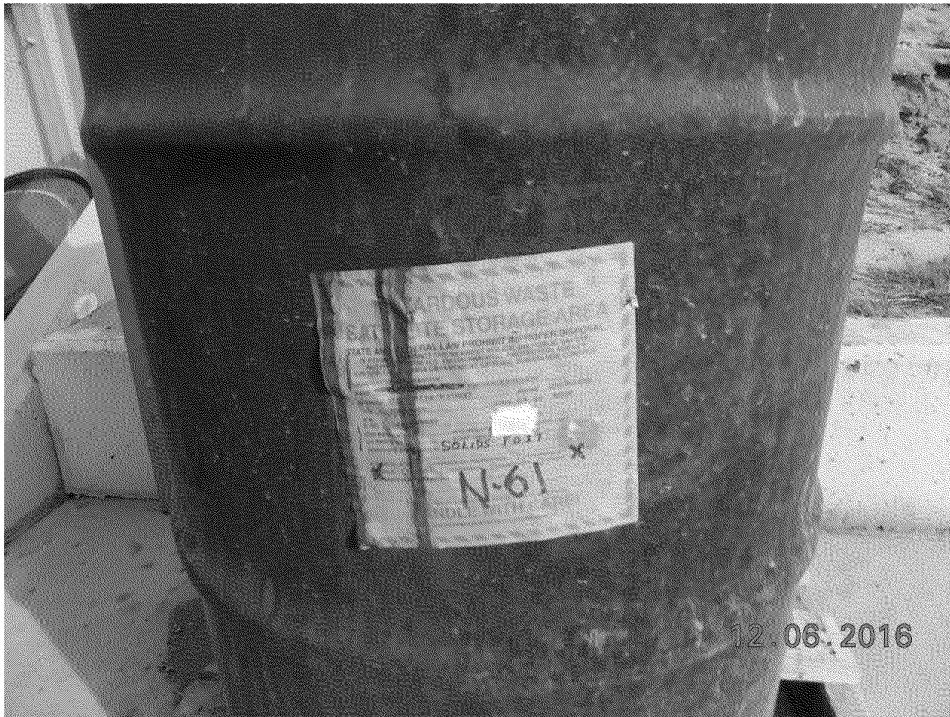


Photograph 45 same signage as Photograph 44



Photograph 46 Vacuum Truck Log book at the Oil Recovery Unit





Photograph 47 Drum with hazardous waste label (F037) at the Oil Recovery Unit



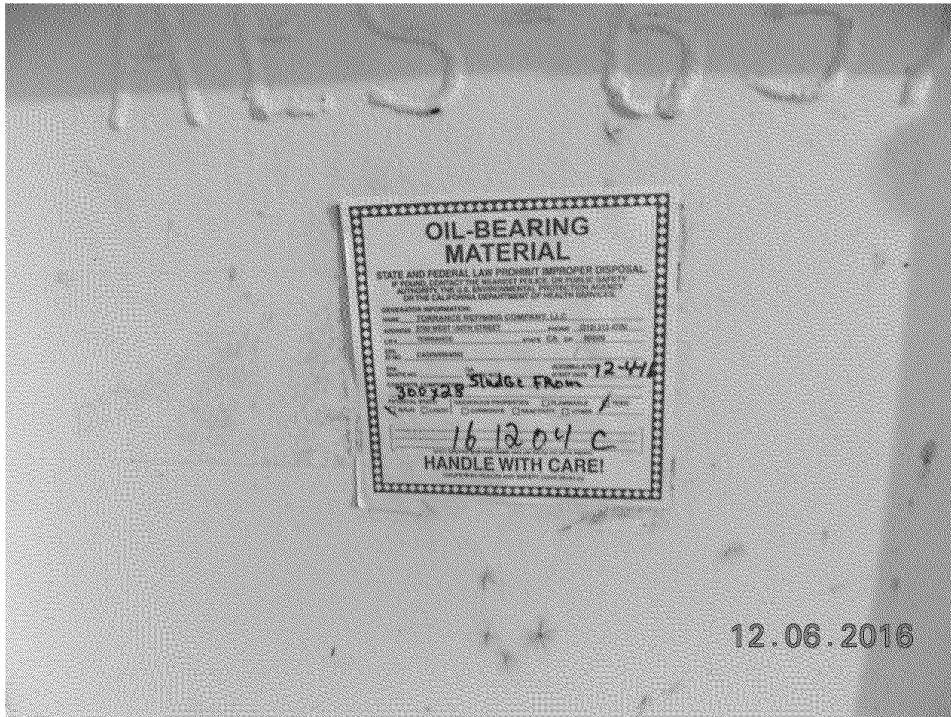
Photograph 48 same drum at the Oil Recovery Unit



Photograph 49 Materials Recovery Unit (MRU) – facing the Vapor Recovery Unit (managed by Envenc Corp)



Photograph 50 - Vapor Recovery Unit (managed by Envenc Corp) in photograph 49



Photograph 51 – 40 cubic yards Roll off bin containing sludge from 3 phase centrifuge at MRU



Photograph 52 – Tank 300x28 containing materials to be processed by the MRU





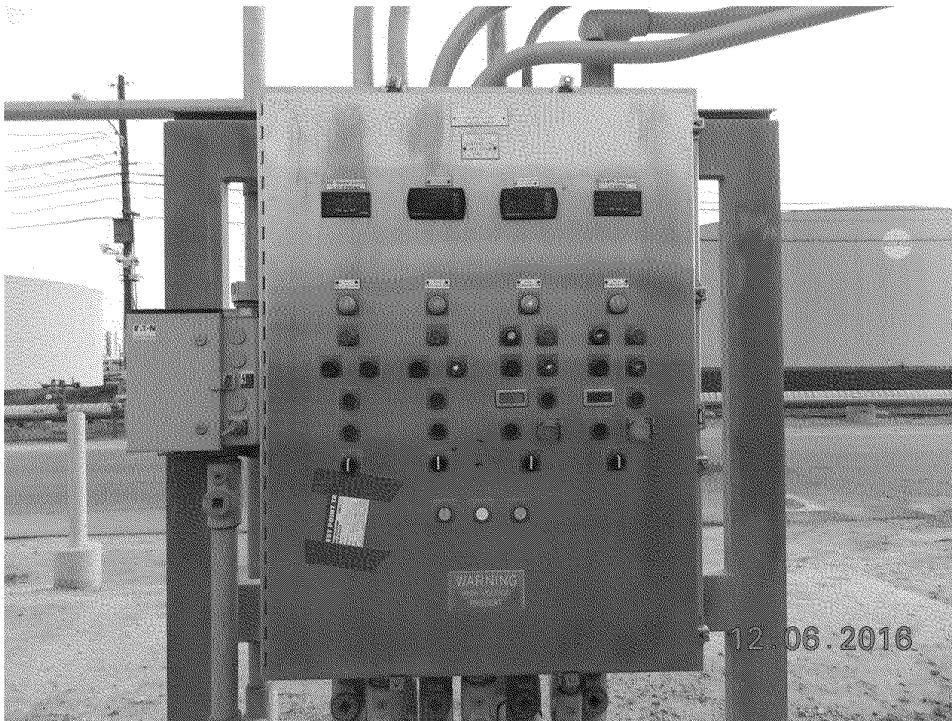
Photograph 53 – inlet of stormwater into the Retention Basin located off of Crenshaw Blvd.



Photograph 54 – Free Hydrocarbon Product (FHP) extraction well



Photograph 55 – side view of the well in photograph 54



Photograph 56 – laboratory waste pump control panel located at the back of the laboratory



Photograph 57 – Sulfur Recovery Unit (SRU)



Photograph 58 – 2 phase centrifuge and the 40 cubic yard roll off bin that contains the solids from the centrifuge. The centrifuge is used to dewater the sludge from the Selenium Unit, run by PSC



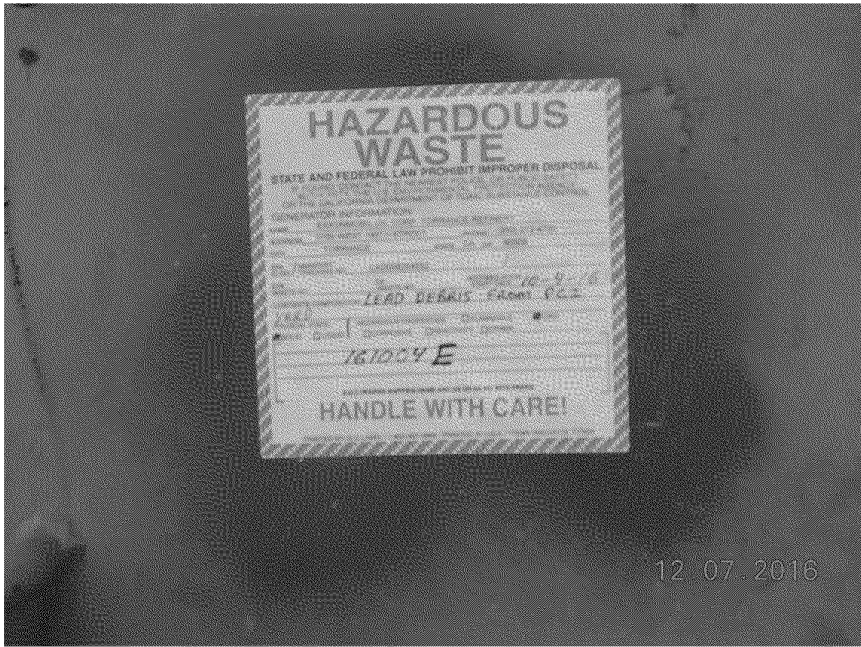


Photograph 59 – same as photograph 58, the 40 cubic yard roll off bin is open showing solids after the centrifuge

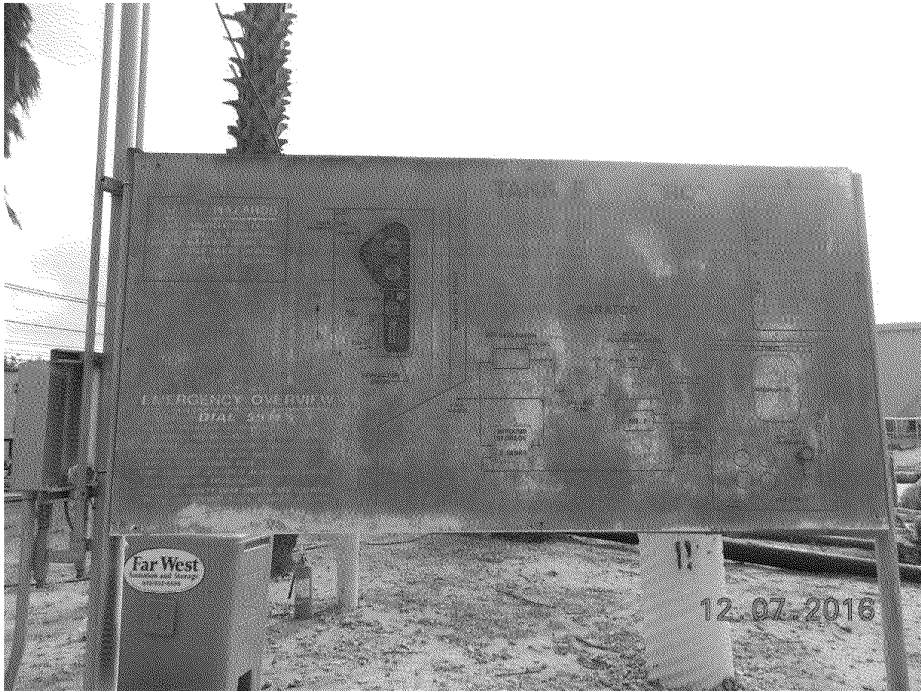


Photograph 60 - red roll off bin at Sandblast Area containing lead debris from lead abatement projects





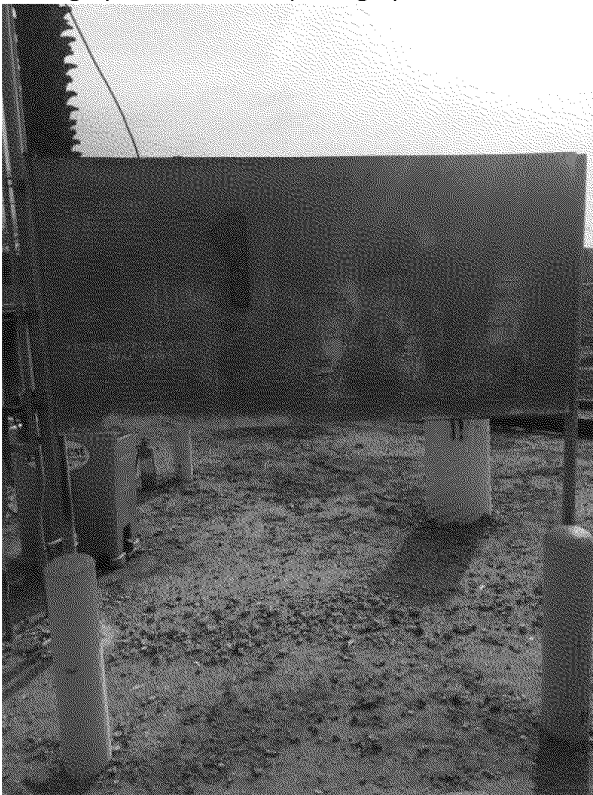
Photograph 61 – close up of the label on the roll off bin in photograph 60



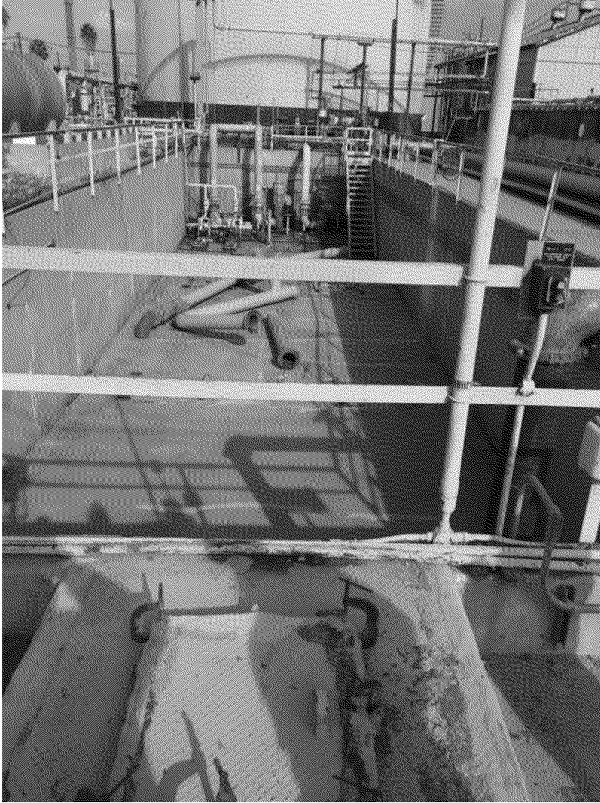
Photograph 62 – wastewater treatment diagram at the entrance of the WWTP off of the Van Ness Ave.



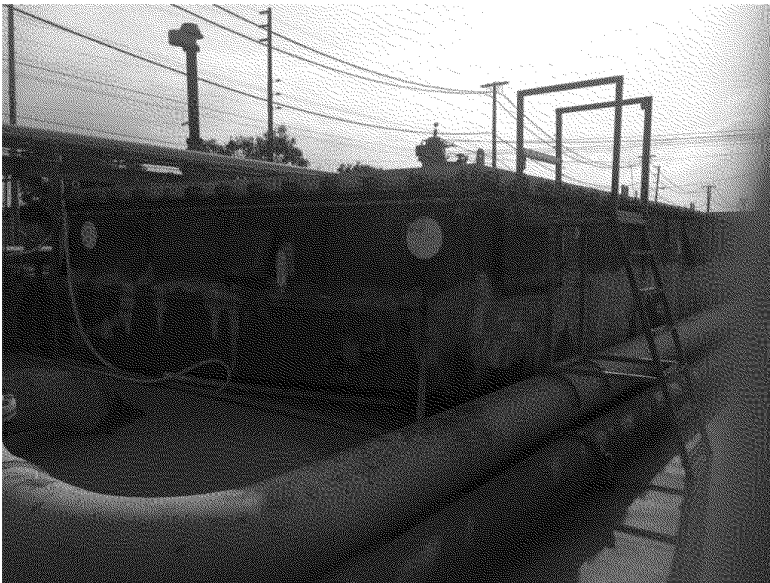
Photograph 63 – same as photograph 62 – different angle



Photograph 64 – same as photograph 62



Photograph 65 – underground API at WWTP



Photograph 66 – GFU (Gas Flotation Unit) at the WWTP





Photograph 67 – API Flock Pit at WWTP, holds sludge from GFU

# **Appendix C**

## **EPA Document Request**

**Torrance Refining Company  
EPA Records/Documents Request  
(December 5, 2016)**

**General Procedure**

**Pursuant to EPA's authority set forth in Section 3007(a) of RCRA, 42 U.S.C. 6927(a), facilities subject to RCRA may be required to furnish information necessary for EPA to administer the Act.** During the compliance investigation at Torrance Refining Company (CAD008354052), EPA/DTSC inspectors will be reviewing records kept for your facility. In order to expedite this portion of the investigation, the agencies are providing Torrance Refining Company notification of the records that will likely be reviewed on-site. For most documents, the agencies will review the records on-site and request copies, if needed. In certain cases, document copies will be requested for later view at EPA. During the investigation, the agencies will work with Torrance Refining Company to develop a schedule to review these documents. If any of the documents requested can be claimed as Confidential Business Information per 40 CFR Part 2, Subpart B, please mark the documents in accordance with the Attachment 1.

The documentation/information requested below is not a complete list of the information EPA/DTSC may request during and following the inspection.

**Part 1 - Records/Document Requested**

1. Provide descriptions for all process areas including the following information:
  - a. Simplified process flow diagrams (4 copies)
  - b. Pollution control equipment
  - c. Waste streams produced
2. Management organization chart (including environmental department) (1 copy)
3. Site map of the facility (4 copies)
4. Provide a list of solid/hazardous waste generated on-site by process area, equipment that generates it, and how it is handled (2 copies<sup>1</sup>)
5. Provide all variances and/or exemption from the RCRA requirements along with any related correspondence (2 copies)
6. Provide any current delistings for hazardous wastes generated on-site and related correspondence (2 copies)
7. NPDES discharge permit and associated permit application (most recent version),

---

<sup>1</sup> On copy for EPA and a copy to DTSC



- including any separate storm water permit (2 copies).
8. Any wastewater pretreatment permit agreements (2 copies)
  9. Plans and/or written descriptions of the sewer system (including by-pass capability), monitoring stations, and outfall locations. Include process, sanitary, and stormwater sewers. (2 copies)
  10. Description of all wastewater treatment systems, including schematic diagrams and any process changes (12 copies).
  11. Provide a current status of RCRA permitted hazardous waste management units on-site; schedule for closure. If there is no RCRA permitted units on site, then provide information related to the units covered under the California Tiered Permitting program (2 copies).
  12. Documentation of off-site waste shipments for the past 3 years, including manifests and associated land disposal restriction (LDR) paperwork, bills of lading, recycling certifications (contracts), shipping records, etc. (1 copy each for review on-site)
  13. Exception reports for any manifests not received back from the designated facility (last 3 years). (1 copy for review on-site)
  14. Latest biennial report (1 copy for review on-site). Include documentation that verifies the submission date.
  15. Plot plan showing locations of all less than 90-days accumulation areas and tanks. Also identify locations of all waste generation points and satellite accumulation areas (2 copies).

**Part 2 – Documents likely to be requested by EPA inspectors (schedule to be determined)**

1. Solid waste and hazardous waste determinations, and any waste analysis data used to support these determinations.
2. Documentation of any reportable spills and/or releases of hazardous substances at the facility for the last 3 years.
3. All records for responses to any reportable spills in the last 5 years, including types and quantities of materials spilled, locations, analytical data, and response measures taken.
4. Records of all hazardous waste shipped from an off-site facility for on-site treatment, recycling, or disposal.
5. Waste analysis plan for treating, storing, or disposing of any hazardous wastes.

6. Training plan, and employee training records for hazardous waste handlers, including job titles and descriptions and name of each employee.
7. Contingency plan and documentation for any incidents that required implementation of the plan.
8. Inspection schedules, logs/summaries for all container storage areas and <90 day accumulation areas (last 3 years).
9. Groundwater analyses and reports for any surface impoundment(s), landfill, or land treatment facilities on-site.
10. For each of the facility ponds:
  - a. Regulatory status, including any claimed exemptions
  - b. Description of pond construction
  - c. Description of the dimensions
  - d. Description of pond maintenance activities including scope and frequency of inspections and repair
  - e. Analysis of materials discharged into each pond
  - f. Description of pond operations, such as aeration, skimming, cleaning, water cannons, dredging.
  - g. Analysis of any sludges or wastewater contained in the pond
11. List of units, and supporting documentation, that are subject to applicable 40 CFR 264/265 Subpart AA. This applies to process vents associated with distillation, fractionation; thin-film evaporation, solvent extraction, or air/steam stripping operations that manage hazardous wastes with organic concentrations of at least 10 parts per million by weight (ppmw).
12. List of units, and supporting documentation, that are subject to applicable 40 CFR 264/265 Subpart BB. This applies to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10% by weight.
13. List of units, and supporting documentation, that are subject to applicable 40 CFR 264/265 Subpart CC. This applies to tanks, containers, and surface impoundment that treat, store, or dispose of hazardous waste that contain a volatile organic concentration of more than 500 ppmw.
14. Documentation of ongoing corrective action activities including monitoring reports and workplans.
15. Any enforcement actions currently in effect or issued in the last 5 years (including Notices of Violation (NOVs), consent decrees, orders, and agreements), and all related correspondence and deliverables including monitoring reports under the agreements.

## **Attachment 1**

### **Confidential Information<sup>2</sup>**

The information requested herein must be provided even though Torrance Refining Company may contend that it includes confidential information or trade secrets. Torrance Refining Company may assert a confidentiality claim covering part or all of the information requested, pursuant to Section 3007(b) of RCRA, 42 U.S.C. § 6927(b), and 40 C.F.R. § 2.203(b).

If you make a claim of confidentiality for any of the information Torrance Refining Company provides to EPA, you must prove that claim. For each document or response you claim confidential, you must separately address the following points:

- i. clearly identify the portions of the information alleged to be entitled to confidential treatment;
- ii. the period of time for which confidential treatment is desired (e.g., until a certain date, until the occurrence of a specific event, or permanently);
- iii. measures taken by you to guard against the undesired disclosure of the information to others;
- iv. the extent to which the information has been disclosed to others, and the precautions taken in connection therewith;
- v. pertinent confidentiality determinations, if any, by EPA or other federal agencies, and a copy of any such determinations or reference to them, if available; and
- vi. whether you assert that disclosure of the information would likely result in substantial harmful effects on your business' competitive position, and if so, what those harmful effects would be, why they should be viewed as substantial, and an explanation of the causal relationship between disclosure and such harmful effects.

To make a confidentiality claim, please stamp, or type, confidential on all confidential responses and any related confidential documents. Confidential portions of otherwise nonconfidential documents should be clearly identified. You should indicate the date, if any, after which the information need no longer be treated as confidential.

All confidentiality claims are subject to EPA verification. It is important that you satisfactorily show that you have taken reasonable measures to protect the confidentiality of the information and that you intend to continue to do so, and that it is not and has not been obtainable by legitimate means without your consent. If no such claim accompanies the information when it is received by EPA, then it may be made available to the public by EPA without further notice to you.

If the EPA determines that the information so designated meets the criteria set forth in 40 C.F.R. § 2.208, the information will be disclosed only to the extent, and by means of the procedures specified in 40 C.F.R. Part 2, Subpart B.

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<sup>2</sup> DTSC has its CBI information claim/management requirements that are separate from EPA's.



## **Appendix D**

### **The MPU Exemption and California's Equipment Exemption**



## Department of Toxic Substances Control

Barbara A. Lee, Director  
1001 "I" Street  
P.O. Box 806

Sacramento, California 95812-0806



Edmund G. Brown Jr.  
Governor

Matthew Rodriguez  
Secretary for  
Environmental Protection

March 1, 2017

Mr. W. Scott Rendleman, MS, CHMM  
Chief Compliance Officer  
Ingenium Group, LLC  
893 Ames Avenue  
Milpitas, California 95035

### THE MPU EXEMPTION AND CALIFORNIA'S EQUIPMENT EXEMPTION

Dear Mr. Rendleman:

This letter addresses questions you raised in a letter, dated March 18, 2016. Specifically, the Ingenium Group, LLC (Ingenium) is requesting the Department of Toxic Substances Control (DTSC) confirm that used canisters containing spent solid media (a.k.a. used desulfurization units) that otherwise exhibit a hazardous waste characteristic are exempted from hazardous waste regulations as a Manufacturing Process Unit (MPU) under California Code of Regulations, title 22, section 66261.4, subsection (c) or as equipment that will be cleaned for continued use under Health and Safety Code, section 25143.14.

Ingenium's question may be summarized as follows: "a manufacturer of alternative energy products sells and provides energy producing units to companies..." that want to use this technology. DTSC understands these energy producing units produce electricity through an electrochemical process that occurs within the units. As part of its process, the energy producing unit(s) pipe natural gas through the desulfurization units in question, which contain absorbent materials (i.e., solid media) that remove sulfur contained in the natural gas. Over time, the solid media in the desulfurization units or canisters reach their capacity and need to be replaced. At that time the canisters are removed from the energy producing units and are sent to Ingenium's offsite facility for emptying, cleaning and subsequent reuse. At Ingenium's offsite facility the used canisters are emptied and the spent media is prepared for final disposition. Spent media that is determined to contain metals is sent for recycling while spent media determined to be non-recyclable is managed as hazardous waste for its benzene content (D018). All emptied canisters are cleaned and sent to another facility "to be re-packed with new media and put back into the supply chain."

Ingenium is requesting a determination that these used canisters containing spent media are MPUs because the hazardous waste within any given canister is generated from the manufacturing of electricity. It is Ingenium's contention that although the canisters

themselves do not necessarily produce the electricity they are a part of the manufacturing process that produces electricity as a product which then qualifies the spent media canisters as MPUs. Additionally, Ingenium also determined that the spent media canisters (as MPUs) can be disconnected from the energy producing unit and sent offsite (to Ingenium's facility) for cleaning and reuse and still maintain its exempt status as an MPU as long as the cleaning and removal is done within 90 days from the time the spent media canisters are temporarily removed from service. To substantiate this determination, Ingenium included excerpts from the United States Environmental Protection Agency's (US EPA's) Federal Register [45 FR 72025] that considers offsite transportation of MPUs and provided a DTSC interpretation letter in its request that extended the MPU exemption to tanks transported offsite for cleaning. Although the canisters themselves are not tanks it is Ingenium's contention that the canisters are similar to tanks, in that the integrity of the canisters are still intact (i.e., when disconnected the canisters remain sealed and contain the spent media within to the extent that release is unlikely) which is the rationale DTSC provided for allowing tanks to be shipped offsite and still be exempt as MPUs.

To ensure consistency, it is also worth mentioning DTSC has located an active inquiry on the exact question of whether a desulfurization unit in an electricity producing process is covered under the MPU exemption. The history below originates from an equipment/process provider (Bloom Energy). The similarity of the issues between the Bloom Energy inquiry and the Ingenium inquiry allow for the issues to be addressed together. The history of the Bloom Energy inquiry as known to DTSC is as follows:

1. There were meetings in December 2014 and January 2015 with Delaware Department of Natural Resources (DNREC – the equivalent of DTSC) where staff answered the question that the units in question were not covered under the MPU exemption (for Bloom Energy).
2. On March 12, 2015 – Bloom Energy's attorney asked the Secretary of the Delaware DNREC for a determination of the issue and submitted extensive technical and regulatory information.
3. On June 3, 2015, the Secretary of the DNREC issued a determination to Bloom Energy that their units did qualify under the MPU exemption; and had a concurrence from the Delaware Attorney General's Office to that effect.
4. On September 8, 2015, US EPA Region III issued a letter to the Delaware Secretary of the DNREC stating that Delaware's interpretation was incorrect and less stringent than Resource Conservation Recovery Act (RCRA).
5. On September 30, 2015, Bloom Energy's attorney sent a letter to US EPA Region III asking them to reconsider their interpretation sent to Delaware's DNREC that the units do not qualify for the MPU exemption.
6. On March 30, 2016, Bloom Energy sent a letter to the US EPA General Counsel in Washington DC asking for consideration of the issue.



7. On September 29, 2016, US EPA Region III issued a letter to the Delaware Secretary of the DNREC affirming the September 8, 2015 interpretation.
8. On October 3, 2016, the Director of the US EPA Office of Resource and Conservation Recovery sent a memorandum to all of the RCRA Regions I-X affirming US EPA's interpretation of the MPU exemption.
9. On October 27, 2016, the DNREC sent a letter to Bloom Energy rescinding the DNREC June 3, 2015 interpretation letter.

In the meantime:

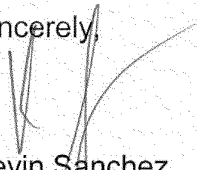
1. On March 18, 2016, Ingenium which is a waste disposal and transportation company that also provides compliance services, asked DTSC to consider the same question but provided less information than the prior correspondence that was sent to Delaware DNREC and US Federal EPA by Bloom Energy.

DTSC has reviewed Ingenium's request and rationale for making such determinations and does not consider spent media canisters to be MPUs or exempted equipment that will be cleaned and reused. DTSC's rationale is provided in the attachment to this letter.

DTSC considers the used solid media within the canisters to be spent material and hazardous waste when sent for cleaning and reuse. Thus, used canisters once removed from an energy producing unit must be managed as hazardous waste when generated, accumulated and stored onsite. When shipped offsite the used canister must be transported using a Uniform Hazardous Waste Manifest and a registered hazardous waste transporter in California.

Thank you for your questions and if you have any additional questions or need further clarification regarding the content of this letter please feel free to contact me at (916) 322-8677 or via email at [Kevin.Sanchez@dtsc.ca.gov](mailto:Kevin.Sanchez@dtsc.ca.gov).

Sincerely,

  
Kevin Sanchez  
Senior Environmental Scientist  
Policy Implementation and Support Branch  
Policy and Program Support Division  
Hazardous Waste Management Program

Attachment

cc: See next page

Mr. W. Scott Rendleman, MS, CHMM  
March 1, 2017  
Page 4

cc: Mr. Rick Brausch, Chief  
Policy and Program Support Division  
Hazardous Waste Management Program  
Department of Toxic Substances Control  
1001 I Street  
P.O. Box 806  
Sacramento, CA 95812-0806

Mr. Keith Kihara, Chief  
Enforcement and Emergency Response Division  
Hazardous Waste Management Program  
1001 I Street  
P.O. Box 806  
Sacramento, California 95812-0806

Mr. Robert Sullivan, Attorney  
Office of Legal Affairs  
Department of Toxic Substances Control  
1001 I Street  
P.O. Box 806  
Sacramento, California 95812-0806

Ms. Pauline Batarseh, Chief  
Policy Implementation and Support Branch  
Policy and Program Support Division  
Hazardous Waste Management Program  
1001 I Street  
P.O. Box 806  
Sacramento, California 95812-0806

## **ATTACHMENT**

### **The MPU exemption and California's equipment exemption**

#### **The MPU exemption**

The Manufacturing Process Unit (MPU) exemption is found in California Code of Regulations, title 22, section 66261.4(c). This subsection, in its entirety, exempts product and raw material storage tanks and pipelines, transport vehicles (e.g., tank trucks), vessels (e.g., ships), MPUs and associated non-waste treatment MPUs in which hazardous wastes are generated. The exemption is necessary because it was never the United States Environmental Protection Agency's (U.S.EPA's) nor the Department of Toxic Substances Control's (DTSC's) intent to regulate such units as hazardous waste storage tanks because the hazardous wastes within them "are contained against release...and the risks posed...are very low and are only incidental to the risks posed by the valuable product or raw material with which they are associated" [October 30, 1980; 45 FR 72025]. Thus, under the exemption, hazardous wastes within such units remain exempt until one of two things occurs:

- the hazardous waste is removed from the unit in which it was generated or
- the hazardous waste remains in the unit for more than 90 days after the unit is removed from service either temporarily or permanently, or if the unit ceases to be operated

DTSC interprets this exemption as applying only to units that are a part of or associated with a manufacturing process or service. Thus an MPU may include tanks that are used to hold raw material or product, or process units such as distillation columns or flotation units, but each must be part of a manufacturing process to be exempt under this particular provision [October 30, 1980; 45 FR 72025].

#### **Is electricity a product?**

The United States Department of Labor (USDOL) categorizes or defines industries or industrial processes based on their activities. USDOL defines the manufacturing sector and also identifies subsectors for the purposes of categorizing the sector in question (using the North American Industry Classification System (NAICS)) none of which list the production of electricity as part of the manufacturing sector. Conversely, USDOL identifies industries engaged in the provisions of utility services including electric power to be a part of the utilities sector, which is a subsector of the service sector.

In the case of Pacific Gas and Electric Company, 271 B.R. 626, United States District Court, N.D. California (2002) the court discussed whether electricity is a product or a service. While the court stated that electricity has consistently been found to be a product and stated that there is no bright line between when the electricity transitions from a service to a product; the court also found that electricity that is metered at a consumer's premises will be a product.

"The court here finds that the U.C.C. does apply. Many of the cases tackling this question stem from the products liability realm, but California courts have

consistently found that electricity is a product or good. See, e.g., *Pierce v. Pacific Gas & Elec. Co.*, 166 Cal.App.3d 68, 82, 212 Cal.Rptr. 283 (Cal.Ct.App.1985) (“As the Supreme Court of Wisconsin aptly put it, ‘The distribution might well be a service, but the electricity itself, in the contemplation of the ordinary user, is a consumable product.’”) (citing *Ransome v. Wisconsin Elec. Power Co.*, 87 Wis.2d 605, 610, 275 N.W.2d 641 (Wis.1979)); *Mancuso v. Southern California Edison Co.*, 232 Cal.App.3d 88, 100, 283 Cal.Rptr. 300 (Cal.Ct.App.1991) (“We also reject Edison’s claim that electricity is solely service and not a product. This issue was put to rest in California by *Pierce*... Electricity which has passed through the consumer’s meter has been sold and delivered. It is in the stream of commerce. It has been marketed. Such a transaction constitutes the sale of a product ...”); *Baldwin–Lima–Hamilton Corp. v. Superior Court*, 208 Cal.App.2d 803, 819, 25 Cal.Rptr. 798 (Cal.Ct.App.1962) (“Electricity is a commodity which, like other goods, can be manufactured, transported and sold.”)

“Courts in other states have similarly found that electricity is a good for purposes of the U.C.C. See, e.g., *Grant v. Southwestern Electric Power Co.*, 20 S.W.3d 764, 771 (Tex.App.2000) (“The Texas Supreme Court has ruled that: ‘Electricity is a commodity, which, like other goods, can be manufactured, transported and sold.’ As the Houston Court of Appeals stated, ‘While the distribution of the electricity through a system of towers, poles, and wires may well be considered a service, the electricity itself is a consumable product.’ As such, the sale of electricity comes under the umbrella of the Uniform Commercial Code.”) (citations omitted); *Helvey v. Wabash County REMC*, 151 Ind.App. 176, 179, 278 N.E.2d 608 (Ind.Ct.App.1972) (holding electricity is a good under the U.C.C. as “[i]t is necessary for goods to be (1) a thing; (2) existing; and (3) movable, with (2) and (3) existing simultaneously. We are of the opinion that electricity qualifies in each respect. Helve says it is not movable and in this respect we do not agree, if for no other reason than the monthly reminder from the electric company of how much current has passed through the meter. Logic would indicate that whatever can be measured in order to establish the price to be paid would be indicative of fulfilling both the existing and movable requirements of goods.”).<sup>8</sup>

“Furthermore, the California products liability cases have generally determined that electricity is a product, and by analogy, a good, only at the point at which “the electricity is actually in the ‘stream of commerce,’ and expected to be at marketable voltage. In most cases this will mean the electricity must be delivered to the customer’s premises, to the point where it is metered, although the many variations in electrical systems prevent our drawing a ‘bright line’ at a particular point.” *Pierce v. Pacific Gas & Electric*, 166 Cal.App.3d 68, 84, 212 Cal.Rptr. 283 (Cal.Ct.App.1985); see also *Fong v. Pacific Gas & Electric*, 199 Cal.App.3d 30, 38, 245 Cal.Rptr. 436 (Cal.Ct.App.1988) (“[E]lectricity does not become a product once it is delivered to plaintiffs’ premises, i.e., the moment the wires cross plaintiffs’ property line. Instead, the test is whether the electricity has been metered.”) (citation omitted). The electricity at issue here clearly meets that standard. It passed from PG & E’s lines to Puget’s, was metered, was available



to Puget in a voltage marketable from one power company to another and was immediately usable by Puget. It would be a product for strict liability purposes. It is by extension a good. Cf. *Singer Co., Link Simulation Systems Div. v. Baltimore Gas and Elec. Co.*, 79 Md.App. 461, 558 A.2d 419, 424 (1989) (holding electricity would not be considered a good when “it has not yet been converted into a useable state of lower voltage by passing through a meter into a customer's home or place of business, [as it] is not the refined product that the customer intends to buy”).”

The Ingenium inquiry did not provide specifics that would allow DTSC to determine whether the electricity generated falls into the product or service category; therefore, DTSC reviewed the Bloom Energy website (<http://www.bloomenergy.com/> last visited 9/8/2016). Bloom Energy describes their product as:

“Distributed generation (also known as distributed energy) refers to power generation at the point of consumption. Generating power on-site, rather than centrally, eliminates the cost, complexity, interdependencies, and inefficiencies associated with transmission and distribution. Like distributed computing (i.e. the PC) and distributed telephony (i.e. the mobile phone), distributed generation shifts control to the consumer.”

Additional review of the Bloom Energy website reveals options where a consumer may purchase or lease equipment, with Bloom Energy maintaining control and servicing, without the customer having to make a capital purchase and take ownership, only paying for electricity that is produced based on a kilowatt per hour (kWh) billing. This description appears to describe a service similar to an electric company with the variation that the equipment is located closer to the point of generation with lower voltage generation and distribution. However, the information on Bloom Energy's web site also seems to allow for a capital purchase by a company that might allow the generation of electricity to fall into the product category.

Realizing that more information may be needed to determine whether the electricity generation is actually a manufacturing process, the limitations of California case law, and the possible variations in interpretations throughout the states, DTSC will address whether or not the canister is an MPU as an “associated non-waste treatment manufacturing process unit,” presuming the energy producing unit is a manufacturing process.

### **Is a used desulfurization unit an associated non-waste treatment MPU?**

California Code of Regulations, title 22, section 66261.4(c) was meant to exempt units that are associated with or part of a manufacturing process however it was not meant to exempt all units (e.g., those units that solely manage wastes). To make such distinctions, DTSC further interprets California Code of Regulations, title 22, section 66261.4(c) to exempt residual material generated in units associated with or part of the manufacturing process that otherwise hold valuable product or raw materials. Thus, although it is reasonable to consider the canister containing solid media to be such a unit during its

initial use (i.e., the canister contains residual material but still holds product in the form of unused media), it is not when the canister is removed because the canister no longer contains valuable product and thus is considered spent. Ingenium states the following, “when the media has reached its capacity, the canister is removed, a new canister is installed, and the old canister is sent to an offsite, second party facility for cleaning.” A material that can no longer be used effectively (i.e., the material cannot be used for its originally intended purpose without regeneration or further processing) is considered a “spent material.” (Cal. Code Reg, tit. 22, sec. 66260.10)

As such, since the solid media in the canister is spent and the canister no longer contains valuable product or raw material DTSC does not consider it an MPU, including when used to transport such wastes. Instead, the removed canister is considered a container holding hazardous waste and the used solid media within it is a “spent material” being sent for reclamation. Thus once the canisters are determined to have reached their capacity, and are removed from the energy producing units, they must be managed as a hazardous waste. [See US EPA letter - EPA RCRA Online (RO) 12790]

Additionally, US EPA has clarified that the MPU exemption does not apply to units that are stationary during operation if those units are disassembled for cleaning offsite. Based on the above, the spent media canisters are removed from the energy producing units and are subsequently sent offsite for cleaning. As such, when viewed as “associated non-waste treatment manufacturing process units” the spent media canisters are not MPUs because “the incentive to maintain the units integrity to prevent leaks or unintended release...is...reduced when...taken out of operation” [See US EPA RCRA/SUPERFUND/OUST Hotline Monthly Report question from May 1990, RO 13374].

Ingenium stated in its letter that the issue of offsite cleaning has been interpreted inconsistently, citing two specific examples – one concerning US EPA allowing transport vehicles and vessels to be moved offsite for cleaning and the other concerning a previous DTSC interpretation, regarding tanks and the offsite cleaning of those units. Regarding vehicles and vessels, DTSC finds US EPA’s statement reasonable when applied to the activity in question, specifically because the exemption is explicitly written to cover vehicles and vessels that generate hazardous wastes during the transport of products in tank-trucks and cargo ships, thus any facility that does the subsequent cleaning would be an offsite facility [October 30, 1980; 45 FR 72025]. Regarding DTSC’s previous interpretation, DTSC considers all its interpretations as site specific and thus process specific and in this particular instance, the MPU is applicable to tanks only, accordingly California Code of Regulations, title 22, section 66261.4(c) does not apply to spent media canister containers which do not meet the definition of a tank [DTSC letter (provided in your March 18, letter) – December 17, 1992, subject Erikson Inc., Enforcement Action and the Regulation of USTs].

**Is the used desulfurization unit exempt as equipment that will be cleaned for continued use?**

Health and Safety Code, subsection 25143.14(a) states the following: “residues that are removed from equipment for the purpose of cleaning the equipment for continued use


are subject to regulation under this chapter only after the residues have been removed from the equipment.” DTSC interprets this particular provision to provide a clarification of the point of generation (POG) for certain generated/produced hazardous wastes. First, the equipment containing a hazardous waste residue is not required to be managed as hazardous waste just because it holds a residue of certain wastes. Secondly, a generator is not required to obtain authorization (e.g., get a permit from DTSC) to remove (or clean out) the hazardous waste residue from the equipment. This provision of law clarifies that the residue is hazardous waste when it is removed provided that the equipment is reused.

The exemption applies only to equipment that contains residues. DTSC sees the word residue as meaning something that remains after a part is taken, separated, or designated or after the completion of a process or a small or de-minimis amount of material left behind. Removed canisters that are essentially full of spent solid media may not be managed under the equipment exemption because they are not holding just a residue. Instead, and as was stated above when discussing the MPU exemption, DTSC considers the spent media canister being sent to Ingenium’s offsite facility to be a spent material being reclaimed thus a hazardous waste once removed from the server because it can longer be used for its intended purpose without further processing. The canisters are being used as hazardous waste containers when they are removed and transported.

# **Appendix I**

## **Contractors' Training Records**





Blasting Rig


Competent Person

Name

Filemon Quinones

has received training in the safe use and inspection of Blasting Rig, Hoses, Compressors and Hoods

Inst: John Leroy Mack III, NACE II Certified



Blasting Rig


Competent Person

Name

Brenton Larkey

has received training in the safe use and inspection of Blasting Rig, Hoses, Compressors and Hoods

Inst: John Leroy Mack III, NACE II Certified



Blasting Rig


Competent Person

Name

Manuel Marquez

has received training in the safe use and inspection of Blasting Rig, Hoses, Compressors and Hoods

Inst: John Leroy Mack III, NACE II Certified



Blasting Rig

Competent Person

Name

Jose Macedo

has received training in the safe use and inspection of Blasting Rig, Hoses, Compressors and Hoods

Inst: John Leroy Mack III, NACE II Certified

# OSCA

OCCUPATIONAL SAFETY  
COUNCILS OF AMERICA

## Certified Training Certificate



*is hereby granted to:*

**IVAN RUELAS**

*for successful training course completion*

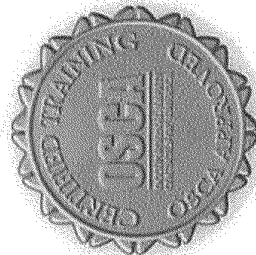
### Hydroblasting Technician

**2 Hours**

COURSE DURATION

**03/15/2016**

COMPLETION DATE



*Robert Apodaca*

Robert Apodaca, Safety Training Supervisor  
**OCCUPATIONAL SAFETY COUNCILS OF AMERICA**  
455 East Carson Plaza Drive, Carson, CA 90746 Phone: 866-699-2727  
www.osca.com

**OSCA**

OCCUPATIONAL SAFETY  
COUNCILS OF AMERICA

# Certified Training Certificate



*is hereby granted to:*

**JESSE MUNN**

*for successful training course completion*

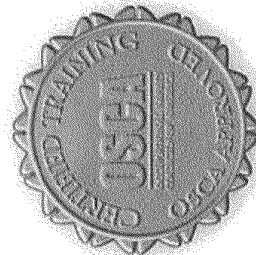
**Hydroblasting Technician**

**2 Hours**

COURSE DURATION

**05/17/2012**

COMPLETION DATE



*Robert Apodaca*

Robert Apodaca, Safety Training Supervisor

**OCCUPATIONAL SAFETY COUNCILS OF AMERICA**

455 East Carson Plaza Drive, Carson, CA 90746 Phone: 866-699-2727  
www.osca.com

# OSCA

OCCUPATIONAL SAFETY  
COUNCILS OF AMERICA

## Certified Training Certificate



*is hereby granted to:*

**JONATHAN ARAMBULA**

*for successful training course completion*

### Hydroblasting Technician

**2 Hours**

COURSE DURATION

**05/10/2012**

COMPLETION DATE



*Robert Apodaca*

*Robert Apodaca, Safety Training Supervisor*

**OCCUPATIONAL SAFETY COUNCILS OF AMERICA**

455 East Carson Plaza Drive, Carson, CA 90746 Phone: 866-699-2727  
www.osca.com





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

April 25, 2017

Keith Kihara  
Chief, Enforcement and Emergency Response Division  
Hazardous Waste Management Program  
Department of Toxic Substances Control  
1001 I Street  
Sacramento, California 95812

RE: **Resource Conservation and Recovery Act ("RCRA")**  
**Referral for PBF Energy Torrance Refining Company, LLC**

Dear Mr. Kihara:

Please find enclosed our inspection report from the EPA-led joint RCRA compliance investigation of PBF Energy Torrance Refining Company, LLC, a petroleum refinery, located at 3700 W. 190<sup>th</sup> Street in Torrance, California, conducted from December 5 through 7, 2016. My staff were accompanied by Mr. Brian Wu of your staff. The purpose of the inspection was to evaluate Torrance Refining Company, LLC's compliance with RCRA hazardous waste management requirements, 42 U.S.C. §§ 6921-6939, and the implementing regulations; and the California Code of Regulations (CCR), Title 22, Division 4.5 and the California Health and Safety Code (HSC), Division 20.

We recommend that DTSC take enforcement as appropriate for the violations noted herein.

If you have any questions, please contact me or have your staff contact Sharon Lin of my staff at (415) 972-3446.

Sincerely,

A handwritten signature in black ink, appearing to read "D. McDaniel", is written over a horizontal line.

Douglas K. McDaniel  
Chief, Waste and Chemical Section  
Enforcement Division

Enclosure (Inspection Report)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, CA 94105

<http://www.epa.gov/region9/waste/enforcement/index.html>

**Purpose:** RCRA Compliance Evaluation Inspection

**Facility:** Torrance Refining Company, LLC

**Location Address:** 3700 W. 190<sup>th</sup> Street  
Torrance, CA 90504-2929

**RCRA ID Number:** CAD008354052

**Date of Inspection:** December 5, 2016, 1PM (in)  
**Time In/Time Out** December 7, 2016, 5PM (out)

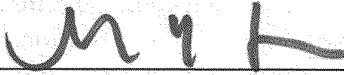
**U.S. EPA Representative:** Sharon Lin, EPA Region 9  
RCRA Enforcement Officer  
(415) 972-3446  
[Lin.sharon@epa.gov](mailto:Lin.sharon@epa.gov)

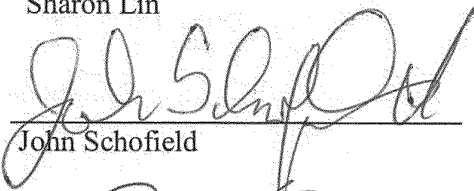
Kandice Bellamy, EPA Region 9  
RCRA Enforcement Officer

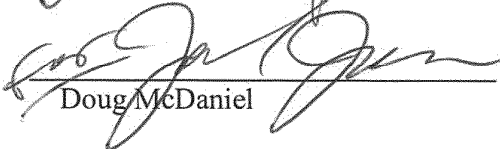
**State Representative:** Brian Wu  
Hazardous Substances Scientist  
California Department of Toxic Substances Control

**Facility Representative:** Penny Wirsing  
Supervisor, Environmental Compliance Program  
[Penny.wirsing@pbfenergy.com](mailto:Penny.wirsing@pbfenergy.com)

**Report Date:** March 24, 2017

**Report Prepared by:**   
Sharon Lin

**Peer Reviewed by:**   
John Schofield

**Supervisor Review:**   
Doug McDaniel

## A. Introduction

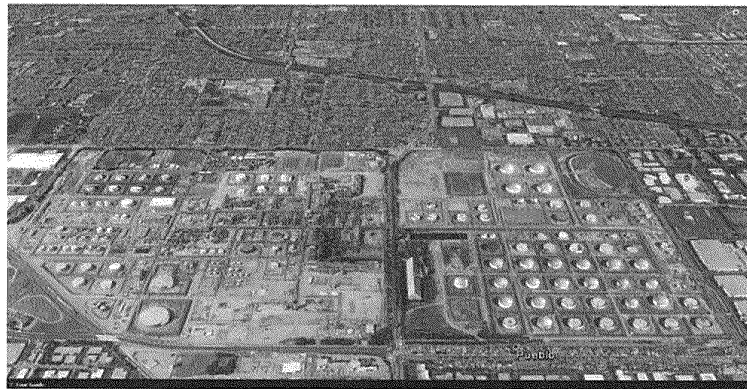
On December 5-7, 2016, representatives of the U.S. Environmental Protection Agency, Region 9 (EPA) and California Department of Toxic Substances Control conducted a hazardous waste management compliance evaluation inspection (CEI) of Torrance Refining Company, LLC, located at 3700 W. 190<sup>th</sup> Street, Torrance, California. The purpose of the inspection was to determine Torrance Refinery's compliance with applicable federal environmental statutes and regulations, and in particular, the Resource Conservation and Recovery Act (RCRA), as amended, the regulations provided in the Code of Federal Regulations, Chapter 40, Parts 261-265, 268, 273, and 279, and the California Health and Safety Code (HSC), Division 20, Chapter 6.5; and the California Code of Regulations (CCR), Title 22, Division 4.5. Torrance Refining Company, LLC is a hazardous waste large quantity generator.

## B. Facility Background

<b>Company Web-Site</b>	<a href="http://www.torrancerefinery.com/go/doc/7602/2831986/">http://www.torrancerefinery.com/go/doc/7602/2831986/</a>
<b>Site History</b>	PBF Torrance Refining Company LLC took over the ownership and operation of the ExxonMobil refinery on July 1, 2016. The facility has two active tiered permitted units, approved by the Los Angeles County Fire Department Hazardous Wastes Management Program. The facility is considered a RCRA large quantity generator.
<b>Number of Employees</b>	According to the Torrance Refinery Organization Chart (revision date 11/1/2016), the refinery employs 626 employees, not including various contractors.
<b>Hours of Operation</b>	24 hours/day, seven days a week.
<b>Latitude/Longitude</b>	33.857260, -118.337181
<b>Facility Operations</b>	Torrance Refinery is located on 750 acres in the city of Torrance, California. Various process units convert crude oil into products. Process operations include distillation, fluid catalytic cracking, catalytic reforming, delayed coking, hydrogen production, hydrocracking, hydrotreating, alkylation, sulfur recovery, and water treatment.
<b>RCRA and Non-RCRA Hazardous Wastes Streams</b>	The facility generates a large quantity of "oil bearing materials" (OBM), which could be reinserted into the refinery process and excluded from the definition of solid wastes. The refinery generates and ships off RCRA hazardous wastes with the following waste codes: D001-D011, D018, D024, D039, F002, F003, F005, F037, K049, K050, K051, K171.
<b>Permitted Units</b>	Tier permitted units: Conditionally Authorized (CA) unit for the Selenium Reduction Unit, Conditional Exempt - Small Quantity Treatment (CESQT) for the drum crusher.

<b>Compliance History</b>	As described in the California Department of Toxic Substances Control Envirostor website, CEIs of the facility were performed by DTSC. The most recent inspection was performed by DTSC in June 2011. No violation was cited.
<b>SIC/NAICS Codes</b>	2911

Below is an aerial photograph of the Torrance Refining Company, LLC. A site map of the facility has been included as Appendix A of this report. Inspection photos are included in Appendix B of the report.



### C. On-Site Inspection & Post Inspection Follow-Up

Prior to EPA's inspection, on December 2, 2016, Sharon Lin notified Ms. Wirsing of EPA's inspection and transmitted a document request for the inspection (Appendix C). Upon arrival at the facility at 1pm on December 5, 2016, Ms. Wiring (Environmental Group Leader for the refinery), Ms. Amy Kim (Acting Waste Advisor for the refinery), Mr. Robert Parker (Hazardous Waste Front Line Supervisor), and Mr. Pablo Mena Jr. (Senior Project Manager, Veolia Environmental Services, onsite contractor to the refinery) met the EPA/DTSC inspection team. The representatives for the refinery who assisted the EPA inspectors were former employees of Exxon Mobil Torrance Refinery. EPA and DTSC inspectors presented their respective credentials. The Torrance Refinery team gave an overview of the waste management activities at the refinery. Ms. Kim provided requested documents in the EPA's document request (Appendix C) on a CD. On December 6 and 7, 2016, the EPA inspection team performed a focused inspection of several selected areas/units. The EPA/DTSC inspection team held a closing conference with the Torrance Refinery team (Ms. Wiring, Ms. Kim, Mr. Parker and Mr. Mena) at the end of the day on December 7, 2016.

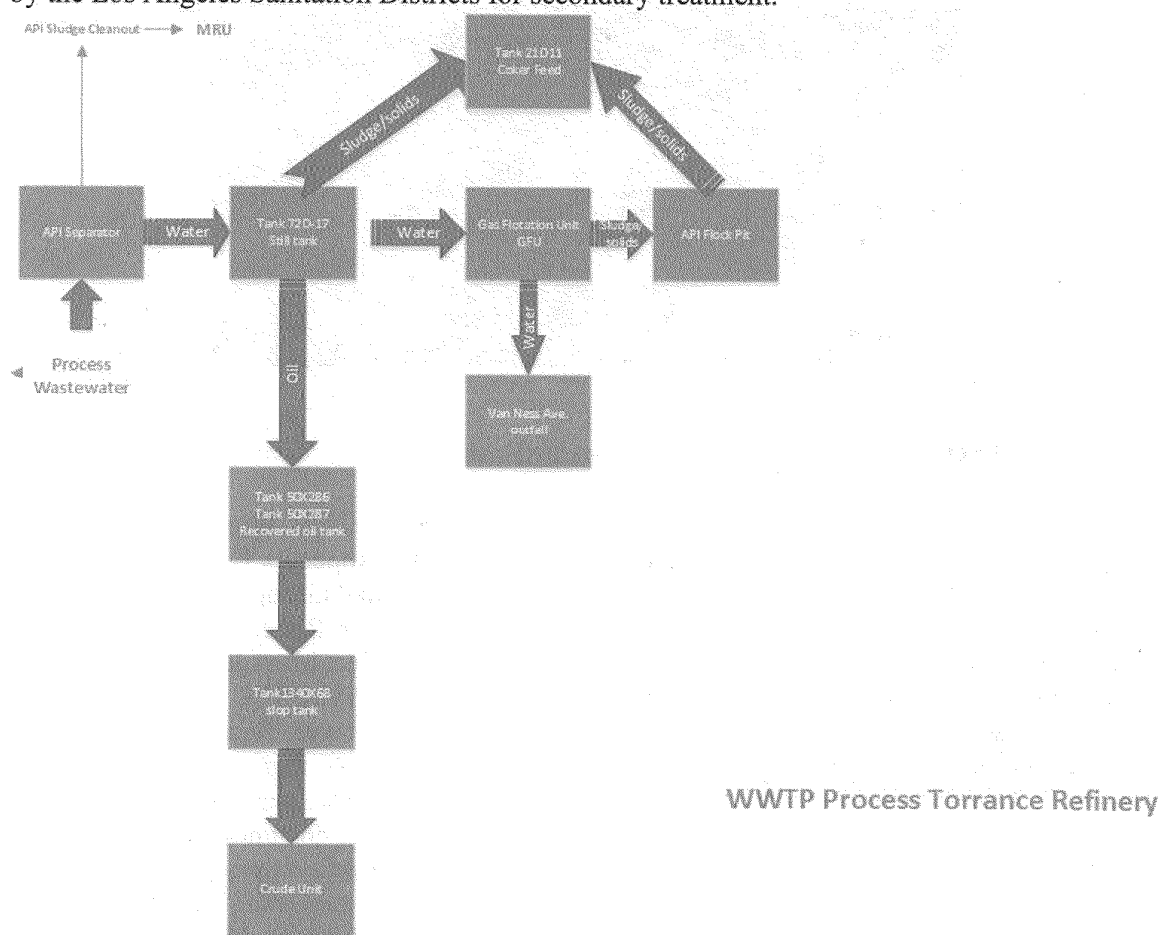
On January 30, 2017, Sharon Lin had a conference call with Ms. Wiring, Ms. Kim, Ms. Diane Lynch (refinery waste advisor), Mr. Mena, Mr. Mike Nash (Sulfur Recovery Unit Operator), Mr. Curtis Rhodes (process planner wastewater treatment) to clarify some of the information



gathered during the inspection. On March 1, 2017, EPA received a CD submittal with information requested during the January 30, 2017 conference call, transmitted by Ms. Diane Lynch.

**EPA inspection team conducted a focused inspection of selected units. The following is summary of the key units:**

**Wastewater Treatment Process (WWTP).** The refinery WWTP performs primary treatment of the wastewater generated on site. WWTP utilizes an API separator (oil and water separator) (Photograph 65 in Appendix B) and gas flotation unit (GFU) (Photograph 66 in Appendix B) to separate oil and water in the process wastewater treatment. The process wastewater after the GFU goes to the Van Ness Ave. outfall under the Industrial Wastewater discharge permit issued by the Los Angeles Sanitation Districts for secondary treatment.



**Figure 1: WWTP Process at Torrance Refinery**

- The float from the GFU (K048) goes into the API Flock Pit (Photograph 67 in Appendix B). Approximately 5 vacuum truck loads (equivalent to 25,200 gallon) of K048 per day is fed into to the Coker feeder tank 21D11 (121,800 gallon capacity).
- The API separator floc materials (K049), at a rate of approximately 2 vacuum truck loads (equivalent to 240 barrels of materials which is 10,080 gallon) per day, is also fed into the Coker feeder tank 21D11.
- The oil from the API separator goes to recovered oil tanks 50X286, 50X287.

**WWTP tanks** - there were three holding tanks at the WWTP that were listed on the wastewater treatment diagram overview display at the WWTP (Photograph 62 in Appendix B). According to Ms. Valerie Tse, environmental advisor at Torrance Refinery, the following was the status of the three tanks on December 5, 2016, the day of EPA's inspection:

- Tank 170X1 (17000 barrels volume capacity): stored API floc. Completely cleaned out in August 2016. The tank had been storing K049 for more than 26 years.
- Tank 200X37(20000 barrels volume capacity): stores API floc. Refinery is currently in the middle of the tank clean out. The tank had been storing K049 for more than 26 years.
- Tank 250X9 (25000 barrels volume capacity): stored API process water until 2011.

*EPA inspectors spoke with Mr. Rhodes during EPA's inspection. Mr. Rhodes who is the process planner for the wastewater treatment unit and was an operator for the wastewater treatment plant for many years indicated that Tank 170X1 and Tank 200X37 had not been in use for as long as he had been with the refinery. He started his career at the Torrance refinery 26 years ago.*

According to the information in the DTSC Hazardous Wastes Tracking Systems (retrieved by Sharon Lin on February 14, 2017), the refinery shipped off site approximately 569,500 lb of K049 solids, a RCRA listed waste, from the tank clean out of Tank 170X1, in August and September 2016. The API floc was last added to Tank 170X1 over 26 years ago. The facility personnel explained that the tank clean out took place at the request of the new owner of the refinery, Torrance Refining Company, as part of the agreement with ExxonMobil.

**Table 1 – K049 from Tank 170X1 shipped off site**

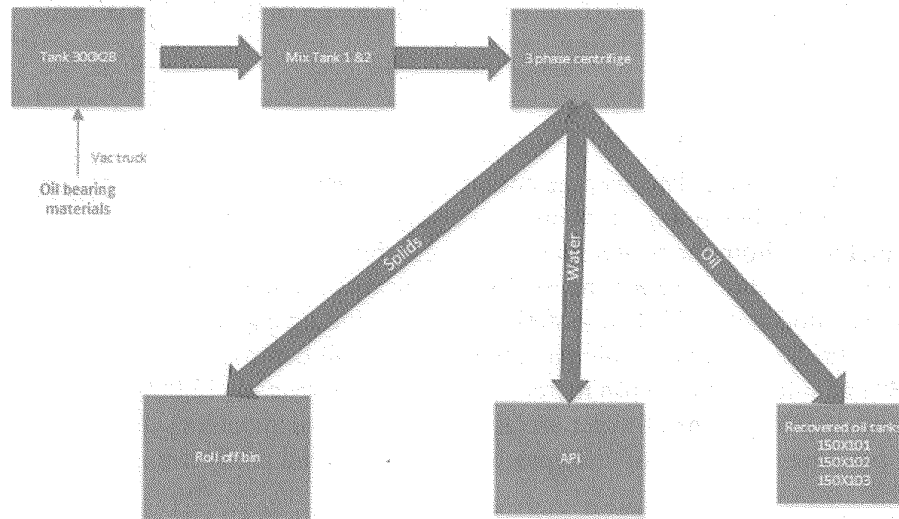
Waste Code	Volume (lb)	Off Site Date	Manifest #	Tons
K049	22840	8/8/2016	001037948VES	11.42
K049	20680	8/8/2016	001037947VES	10.34
K049	26240	8/25/2016	001037957VES	13.12
K049	26280	8/25/2016	001037958VES	13.14
K049	31040	8/25/2016	001037959VES	15.52
K049	30220	8/30/2016	001037960VES	15.11
K049	28980	8/30/2016	001037961VES	14.49
K049	30100	8/31/2016	001037962VES	15.05
K049	32060	8/31/2016	001037976VES	16.03
K049	34500	9/1/2016	001037964VES	17.25
K049	32620	9/2/2016	001037994VES	16.31

K049	28960	9/2/2016	001037995VES	14.48
K049	28280	9/2/2016	001037982VES	14.14
K049	28660	9/2/2016	001037983VES	14.33
K049	22440	9/6/2016	001037984VES	11.22
K049	29820	9/6/2016	001037985VES	14.91
K049	26260	9/14/2016	000887728VES	13.13
K049	24960	9/16/2016	000887741VES	12.48
K049	24080	9/16/2016	000887742VES	12.04
K049	22020	9/16/2016	000887745VES	11.01
K049	18460	9/16/2016	000887746VES	9.23
<b>K049</b>	<b>569,500</b>			<b>284.75</b>

### Materials Recovery Unit (MRU)

MRU was placed in service on February 9, 2015. MRU is a system used to separate the oil bearing materials into different phases to make the materials more suitable for re-insertion into the coker. The consolidation Tank 300X28 (Photograph 52 in Appendix B) holds solids generated from cleaning of piping/heat exchanges/process sumps/API solids, cleaning out of the tanks (including crude tanks and recovered oil tanks), and API sludge. This material is processed through a three phase centrifuge. After the centrifuge, solids are stored in a 20-cubic yard roll off bin labeled as "oil bearing materials," (see Appendix B photograph 51); water goes to the API separator at the Wastewater Treatment Plant. The oil portion goes to the tanks 150X101, 150X102, and 150X103. According to Ms. Lynch, the MRU generates about 5-6 bins of solids per week, and that from 2011 and forward, there was a consistent increase in the tank cleanings to meet the 20 year requirement of the tank cleaning for the API certified tanks. The MRU system has been operating intermittently since it was placed in service in 2015 due to the high operating cost and the limitation on the coker's availability to accept the solids generated from the MRU.

**Materials Recovery Unit at Torrance Refinery (2015-PRESENT)**



**Figure 2 – Materials Recovery Unit at Torrance Refinery**

Prior to 2015, Clean Harbors, contractor to Exxon Mobil Torrance Refinery, operated an attritor (grinder) to process the oil bearing materials. Solids residue after the attritor process were disposed off site as F037 RCRA hazardous wastes. The attritor ceased operation on January 7, 2015, and was replaced by the MRU centrifuge system.

On the day of EPA's inspection, EPA observed 9 roll off bins of oil bearing materials after the centrifuge process at the location of the MRU centrifuge (Photograph 11 in Appendix B). An inventory list for the roll off bins, submitted to EPA on March 3, 2017, showed approximately **500** 20 cubic yard roll off bins of oil bearing materials waiting to be injected into the coker at the refinery, on December 31, 2016 (see table 2 below and Appendix G).

**Table 2 – Inventory list of oil bearing materials containers  
(on December 31, 2016)**

Year Waste was generated	Number of 20 cubic yard bins
2010	1 bin
2011	16 bins
2012	21 bins
2013	35 bins
2014	6 bins
2015	250 bins
2016	283 bins



As of the time of this EPA's inspection report (March 2017), the materials in the above bins were still waiting to be reinserted into the coker. Ms. Lynch informed EPA that the MRU has been down since EPA's inspection in December 2016 and no coker injection of the MRU materials has taken place during that time period.

## Coker

The facility operates a delayed coker. The average coking cycle is about 16-20 hours. When the coke drum comes off line, at the beginning of the quench cycle, which lasts approximately 3-4 hours, the oil bearing materials from the feeder tank 21D11 combined with water are fed into the coke drum. According to Kerri Holt, Coker Process Supervisor at the refinery, the injection priority is given to the API floc and GFU float materials, the remaining capacity goes to the MRU/attritor materials. The desired operational parameters for the oil bearing materials is about 10-20% of oil, <12-13% of solids, <25 micron meter particle size. In general, 42,000 gallons of oil bearing materials and 45,000 gallons of water are injected during the quench cycle per drum of coke. The refinery produces two types of coke product as commercial product for sale.

## Oil Bearing Materials (OBM)

EPA observed several types of OBM on site (see table 3 below).

**Table 3 – Types of Oil Bearing Materials**

<b>Material/Location</b>	<b>Destination</b>	<b>Rate of Transfer</b>	<b>Mode of Transfer</b>
GFU Float/API Flock Pit	Tank 21D11, Coker Feed	25,200 gallons/day	Vac Truck
API floc/Tank 72D-17 (still tank)	Tank 21D11, Coker Feed	10,080 gallons/day	Vac Truck
API sludge/API Separator	MRU	Once a year	Vac Truck
Other materials pre MRU	MRU	ongoing	Vac Truck

- Materials from the API Flock Pit (K048 float from gas flotation unit), at a rate of 5 vacuum trucks (approximately 25,200 gallons) per day to the Coker feed tank 21D11;
- Materials from Tank 72D-17 (still tank), at a rate of 2 vacuum trucks (approximately 10,080 gallons) per day to the Coker feed tank 21D11;
- Annual API separator clean out, API separator sludge K050 to MRU for processing.
- Tank cleanouts to MRU for processing
- Materials after the MRU attritor (before 2015) or centrifuge (after 2015).

EPA observed OBM in a 55 gallon containers and 20-cubic yard roll off bins stored at the Hazardous Waste Pad at the refinery. For example, solids from the bundle cleaning pad were stored in a 55-gallon container labeled "Oil-Bearing Material" with an accumulation start date of 10/11/16 (Appendix B photograph 6). EPA was informed that the content of the container would go through the MRU and eventually to the Coker.

### **Heat Exchanger Bundle Cleaning Pad (Bundle Wash Pad)**

EPA observed cleaning of heat exchanger bundles during EPA's inspection (Photographs 15, 28, 32 in Appendix B). The cleaning operation was conducted by the refinery's contractor PSC on a 100'x70' concrete pad. The pad sloped to the corner where there is a metal mesh box located at the sump. The solids/sludge from the high power hydroblasting goes through the metal mesh box into the sump (Photographs 21 and 22 in Appendix B). The content of the sump is pumped into a 21,000 gallon Baker tank (Photographs 23 and 24 in Appendix B) that is equipped with a carbon canister for VOC control. The solids from the hydroblasting of the heat exchanger bundles that did not make it into the sump were shoveled into a 55-gallon container and sent to consolidation in a roll off bin destined for MRU for processing.

### **Selenium Reduction Unit**

The facility operates a selenium reduction unit (SRU) to remove/reduce the selenium content in the process wastewater from the refinery under a conditionally authorized (CA) tier of California's Tiered Permitting System (refer to Appendix E for process diagram). The unit processes about 780 gallon/hour continuous flow. Hydrogen peroxide is added to treat the hydrogen sulfide (H<sub>2</sub>S) in the sour water. Then caustic is added to adjust the pH the water. Then polymer (ferric chloride) is added to precipitate out the selenium metals. The treated water is discharged through the Del Amo outfall which is operated under an industrial wastewater discharge permit issued by the Los Angeles County Sanitation Districts. The solids go through a 2 phase centrifuge managed by PSC, contractor to the Torrance refinery. The solids portion are tested and shipped off site as California only hazardous waste.

## **D. Record Review**

EPA/DTSC inspection team reviewed manifests, land disposal restriction (LDR) notifications, biennial reports, and selected waste management standard operating procedures manuals. Training certificates for Brent Larkey and Manual Marquez with PCI, who operated the sand blasting area, and Jonathan Arambula and Jesse Munn with the PSC, who conducted hydro blasting cleaning at the bundle cleaning pad, were provided to EPA. These employees' records were selected because they were identified as key personnel handling hazardous wastes from the documentation reviewed by the EPA inspectors.

## POTENTIAL VIOLATIONS

NO.	STATUTE OR REGULATION	REGULATION SUMMARY	FINDING(s)	EVIDENCE
1.	Storage of hazardous waste in at least two tanks without a permit	<p>22 CCR §66270.1(c) (40 CFR §270.1 (c))</p> <p>A permit is required for the "transfer," "treatment," "storage," and "disposal" of any waste which is hazardous waste pursuant to section 66261.3</p>	<p><b>Torrance Refinery stored emulsified layer skimmed off of the API separator material, EPA hazardous waste K049 hazardous waste, in two on-site tanks without a RCRA permit</b></p> <p>According to refinery's records, approximately 285 tons of K049 materials from Tank 170X1 at the wastewater treatment plant were shipped off-site as hazardous waste from 8/8/2016-9/16/2016. The materials were from the tank clean out. The last time the API flocculant, K049 waste, was fed to the tank was more than 26 years ago, which makes the tank a hazardous waste storage tank (see Appendix D). The materials, K049, a listed RCRA hazardous waste, may have been stored in the tank until they could be fed to the on-site coker unit. However, the refinery determined the material was not suitable for coker injection due to the high hydrogen sulfide (H<sub>2</sub>S) content in the tank bottom solids, according to Mr. Mena. and therefore, was shipped off site for disposal with a hazardous waste code of K049. Tank 170X1 has been storing K049 RCRA hazardous waste for more than 26 years.</p> <p>Tank 200X37 is another unpermitted hazardous waste storage tank at the WWTP. It was used to store API flocculant (K049). The tank is currently being cleaned out and the last time when the K049 API flocculant was fed to the tank was more than 26 years ago which also makes this a hazardous waste storage tank.</p> <p>The 63 FR 42128 clarifies that the oil-bearing secondary materials exclusion applies to the materials actually reinserted. "In the final rule, EPA clarifies that the exclusion for oil-bearing secondary materials returned to the refining process only extends to the materials actually reinserted."</p> <p><b>Therefore, the K049 in Tanks 170X1 and 200X37 are not excluded materials and should be permitted as a hazardous</b></p>	<p>Table 1 above</p> <p>Appendix D the MPU exemption and California Equipment Exemption.</p> <p>RO 12347 (K049) oil/water emulsions generated by petroleum refinery wastewater systems – K049</p>

			wastes storage tanks.	
2.	Failure to Make a Waste Determination	<p>22 CCR §66262.11 (40 CFR §262.11)</p> <p>A person who generates a waste, as defined in section 66261.2, shall determine if that waste is a hazardous waste.</p> <p>California HSC §25143.2(e) (4)</p> <p>(40 CFR §261.4(a)(12)(i))</p> <p>If the materials are speculatively accumulated, the recyclable materials are hazardous wastes and subject to full regulations even if the recycling involves use, reuse, or return to the original process.</p>	<p>According to 40 CFR § 261.4(a)(12)(i), oil-bearing secondary materials that are generated at a petroleum refinery are not solid wastes when they are inserted into the petroleum refining process, unless the material is placed on the land or speculatively accumulated before it is recycled. A material is "accumulated speculatively" if it is accumulated before being recycled, and during the calendar year, the amount of material that is recycled is not at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the year.</p> <p>Moreover, as defined in § 261.1(c)(8):</p> <p>A material is "accumulated speculatively" if it is accumulated before being recycled. A material is not accumulated speculatively if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled; and that during the calendar year (commencing on January 1)-the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the period. In calculating the percentage of turnover, the 75 percent requirement is to be applied to each material of the same type (e.g., slags from a single smelting process) that is recycled in the same way (i.e., from which the same material is recovered or that is used in the same way). Materials accumulating in units that would be exempt from regulation under §261.4(c) are not to be included in making the calculation. (Materials that are already defined as solid wastes also are not to be included in making the calculation.) Materials are no longer in this category once they are removed from accumulation for recycling, however.</p> <p>There are at least <b>two different types</b> of materials that are being recycled to the coker at the Torrance Refinery. The API floc (K049) and GFU float (K050) are directly transported to and re-inserted into the coker after being generated at the WWTP. The materials that require processing by the MRU prior to</p>	<p>Table 2, Table 3 above</p> <p>Appendix F speculative accumulation calculation sheet</p> <p>Appendix H Environmental Procedure EP-WS-07, Management of Recyclable Hazardous Wastes</p>



			<p>injection into the coker (mostly K051, F037, F038, and/or characteristic RCRA wastes) are also sent to the coker. The refinery provided the speculative accumulation calculation sheet (Appendix F) where the calculation was not performed in accordance with the regulatory requirements in 40 CFR § 261.1(c) (8), nor the internal environmental procedure EP-WS-07, Management of Recyclable Hazardous Wastes (Appendix H). The refinery did not separate the two types of materials in its speculative accumulation calculation.</p> <p>Moreover, the regulation considers that “the length of time secondary materials are accumulated before being recycled is an important indicator of whether or not they are wastes,” as stated in the January 4, 1985 Federal Register [50 FR 635]. The fact that the RCRA listed waste was stored in the tanks for more than 26 years indicated that the material already was waste rather than recyclable secondary materials. The fact that Table 2 showed 329 bins of hazardous wastes were on site for <b>more than 1 year</b> further showed the the refinery was speculatively accumulating this type of materials. Based on the generation rate of 5-6 bins of solids per week per Ms. Lynch, it appeared that there was very little or none of this materials in the bins reinserted into the coker in 2015 and 2016.</p>	
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3.	Storage of hazardous wastes in 20 cubic yard containers and tanks 800X130 and 250X9 without a permit	<p>22 CCR §66270.1(c) (40 CFR §270.1 (c))</p> <p>A permit is required for the "transfer," "treatment," "storage," and "disposal" of any waste which is hazardous waste pursuant to section 606.1.3.</p>	<p>Refer to Count 2, the content in the 329 bins of oil bearing materials are considered listed RCRA hazardous wastes F037, K049, K050, K051, or K169 given the fact they did not meet the condition for exclusions nor the requirement for recyclable materials.</p> <p>Many of the 20-cubic yard containers on site were holding listed hazardous wastes without a permit. Tank 800X130 (used to hold Resid Oil) and Tank 250X9 were holding tank solids (K049).</p>	
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4.	Storage of hazardous wastes in a concrete pit without a permit	<p>22 CCR §66270.1(c) (40 CFR §270.1 (c))</p> <p>A permit is required for the “transfer,” “storage,” and “disposal” of any waste which is hazardous waste pursuant to section 66261.3.</p>	<p><b>Torrance Refinery stored float from the gas flotation unit (GFU), a K048 hazardous waste, in an in-ground concrete pit without a permit.</b></p> <p>The float (floc) from the gas flotation unit is a listed hazardous waste, K048. The refinery stores the waste in an in-ground concrete pit (API Flock Pit) before transferring to a vacuum truck to be taken to the coker for injection. When the listed waste is placed on land because the concrete pit is not a tank, it does not meet the condition of exclusion for oil bearing secondary materials, and therefore, is considered a RCRA waste.</p>	Appendix B Photograph 67
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5.	Treatment of hazardous waste without a permit	<p>22 CCR §66270.1(c) (40 CFR §270.1 (c))</p> <p>A permit is required for the “transfer,” “storage,” “treatment,” “storage,” and “disposal” of any waste which is hazardous waste pursuant to section 66261.3</p>	<p><b>Torrance Refinery treated hazardous wastes without a permit.</b></p> <p>The refinery operates a materials recovery unit (MRU) which consists of a consolidation Tank 300X28 and a three phase centrifuge system. The content in the Tank 300X28 was mostly solids from tank cleaning which are RCRA hazardous wastes. If the MRU is indeed processing oil bearing secondary materials that are excluded from the RCRA regulations, then the unit would be exempt from RCRA regulations. However, because the materials after the centrifuge process were not reinserted into the Coker, and not meeting the conditions for the exclusion, the MRU was in fact processing hazardous wastes. Therefore, a RCRA permit is required for the MRU.</p>	<p>Appendix B</p> <p>MRU Photographs 49, 50, 51, 52</p>
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6.	Treatment of hazardous waste without a permit	<p>22 CCR §66270.1(c) (40 CFR §270.1 (c))</p> <p>A permit is required for the “transfer,” “treatment,” “storage,” and “disposal” of any waste which is hazardous waste pursuant to section 66261.3</p>	<p><b>Torrance Refinery managed heat exchanger bundle cleaning sludge, K050, a RCRA listed waste, on a concrete pad without a permit.</b></p> <p>The refinery operates a 100’x70’ concrete pad (“Bundle Wash Pad” on the facility’s map) for equipment wash, including the heat exchanger bundles. The pad sloped to the corner where there is a metal mesh box located at the sump. The solids/sludge from the high power hydroblasting goes through the metal mesh box into the sump (Photographs 21 and 22). The content of the sump is then pumped into a 21,000 gallon backer tank (photographs 23 and 24) that is equipped with a carbon canister for air emission control. The solids after hydroblasting that do not make it into the sump were shoveled into a drum and sent to the waste pad for consolidation to a roll off bin and then eventually to the MRU.</p> <p>Heat exchanger bundle cleaning sludge is a listed RCRA hazardous waste, and when land placed, does not meet the condition of exclusion for the oil bearing materials. According to 40 CFR § 261.4(a)(12)(i), oil-bearing secondary materials that are generated at a petroleum refinery are not solid wastes when they are inserted into the petroleum refining process, unless the material is placed on the land or speculatively accumulated before it is recycled. Therefore, the sludge from the heat exchanger bundle cleaning is considered a non-excluded RCRA hazardous waste.</p>	<p>Appendix B</p> <p>Bundle wash pad: Photographs 15, 25, 26, 27, 32</p> <p>Mesh metal box at the pad sump: Photograph 21 and 22</p> <p>Pad sump and Baker Tank: Photograph 23 and 24</p>
7.	Personnel training	<p>22 CCR §66265.16(a)(2) (40 CFR §265.16(a)(2))</p> <p><i>Training program must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.</i></p>	<p>The regulations require the facility personnel to be trained on the hazardous waste management procedures relevant to the positions in which they are employed. Training cards for Brent Larkey and Manual Marquez with PCI (contractor to Torrance Refinery), who operated the sand blasting area, and Jonathan Arambula and Jesse Munn with PSC (contractor to Torrance Refinery), who conducted hydro blasting cleaning at the bundle cleaning pad, were provided to EPA. The training cards only indicated that the personnel were trained to operate the machineries and equipment, with no indication of training that is applicable to the hazardous waste management procedures relevant to their respective positions.</p>	<p>Appendix G Contractors’ Training Records</p>



		<p>22 CCR §66265.16(d)(4) (40 CFR §265.16(d) (4))</p> <p>Requires the owner/operator to maintain training records of employee including hazardous wastes management procedures relevant to their positions at the facility.</p>	<p>The regulations also require the facility to maintain the training records at the facility. The PCI and PSC contractors had to contact their corporate offices to obtain their training cards, which were kept off site.</p>	
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California-Only Violation			
1.	Treatment without a permit	<p><i>California HSC § 25201</i></p> <p>Torrance refinery has been performing an unauthorized treatment of hazardous wastes since 2005.</p> <p>Torrance refinery operates a selenium reduction unit (SRU) as a "conditionally authorized (CA)" unit under the California Tiered Permitting program. The purpose of the SRU is to reduce the selenium concentration in the process wastewater from the sour water stripper.</p> <p>Hydrogen peroxide is added to treat the H<sub>2</sub>S in the sour water. Then caustic is added to adjust the pH in the water. Then polymer (ferric chloride) is added to precipitate out the selenium metals in the water. The treated water is discharged through the Del Amo outfall, which is operated under an industrial wastewater discharge permit issued by the Los Angeles County Sanitation Districts. The solids go through a 2 phase centrifuge managed by PSC, contractor to the Torrance refinery. The solids portion is tested and shipped off site as California-only hazardous waste.</p> <p>The chemical process of oxidation (adding hydrogen peroxide to an aqueous waste) is not one of the treatments authorized for the CA under the HSC § 25200.3(a). Therefore, the refinery has been operating an unauthorized/illegal hazardous waste treatment unit.</p>	
	Area of Concern		
1	Failure to meet solid waste exclusion requirements	<p><i>California HSC §25144(c)(3)</i> <i>(40 CFR §261.4(a)(12)(i))</i> <i>Oil-bearing hazardous</i></p>	<p>At the time of EPA's inspection, EPA observed oil bearing materials were stored in roll off bins and tanks on site to be recycled into the on-site coker. The oil bearing materials that are inserted into the coker are excluded provided if the coke product is not hazardous. At the time of EPA's inspection, the facility do not have the analytical results to demonstrate that the coke product is <u>not hazardous</u>. The facility provided</p>

		<p><i>secondary materials (i.e., sludges, byproducts, or spent materials) that are generated at a petroleum refinery (SIC code 2911) and are inserted into the petroleum refining process (SIC code 2911 - including, but not limited to, distillation, catalytic cracking, fractionation, or thermal cracking units (i.e., cokers)) unless the material is placed on the land, or speculatively accumulated before being so recycled. Materials inserted into thermal cracking units are excluded under this paragraph, provided that the coke product also does not exhibit a characteristic of hazardous waste</i></p>	<p>information on the coke TCLP analysis performed in February 2017, after EPA's inspection. <b><u>The facility needs to make sure the information is readily available on site for inspection.</u></b></p>	
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***List of Attachments***

1. *Appendix A – Facility Site Map provided by Torrance Refinery*
2. *Appendix B – Inspection Report Photograph Log*
3. *Appendix C – EPA Document Request*
4. *Appendix D – The MPU exemption and California's Equipment Exemption*
5. *Appendix E – Torrance Refinery Selenium Reduction Unit (CBI)*
6. *Appendix F – Torrance Refinery - Speculative Accumulation Calculation Sheet (CBI)*
7. *Appendix G – Torrance Refinery Oil Bearing Materials Inventory List (December 31, 2016) (CBI)*
8. *Appendix H – Environmental Procedure (Waste) Manual, Exxon Mobil Torrance Refinery, Management of Recyclable Hazardous Wastes, EP-WS-07 (CBI)*
9. *Appendix I - Training Records*

**To:** Kihara, Keith@DTSC[Keith.Kihara@dtsc.ca.gov]  
**Cc:** Soria, Maria@DTSC[Maria.Soria@dtsc.ca.gov]; Lin, Sharon[Lin.Sharon@epa.gov]  
**From:** McDaniel, Doug  
**Sent:** Thur 3/23/2017 8:55:50 PM  
**Subject:** Torrance Refinery  
PBF Report Summary 3-23-17.doc

Hi Keith –

Attached is a very brief summary of the December 2016 PBF Torrance Refinery RCRA inspection (we have to work through CBI issues before we can release the report itself). Brian Wu of your staff accompanied. EPA hopes DTSC will take the lead on appropriate follow up enforcement, as the case involves potential California-only violations in addition to potential RCRA violations. Please let me know who on your staff is the appropriate contact for Sharon Lin, our inspector. We will provide the full report when available (2-3 weeks).

Doug

Douglas K. McDaniel

Chief, Waste and Chemical Section

Enforcement Division

U.S. EPA Region 9

(415) 947-4106





**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX**

75 Hawthorne Street  
San Francisco, CA 94105

<http://www.epa.gov/region9/waste/enforcement/index.html>

**Subject:** RCRA Subtitle C hazardous waste management compliance inspection conducted jointly by USEPA Region 9 and California DTSC personnel (USEPA lead) on December 5-7, 2016

**Facility:** Torrance Refining Company, LLC  
3700 W. 190th Street  
Torrance, CA 90504-2929

**Preliminary Observations:**

- 1) 329 bins of RCRA listed hazardous wastes on site for more than 1 year.
- 2) Storage of emulsified layer material skimmed off of the API separator (RCRA K049 hazardous waste) in two on-site tanks without a permit.
- 3) Storage of float from the gas flotation unit (RCRA K048 hazardous waste) in an in-ground concrete pit without a permit.
- 4) Management of heat exchanger bundle cleaning sludge (RCRA K050 hazardous waste) on a concrete pad without a permit.

**Next steps:**

Compliance determination is pending agency review.

**Region 9 Contact:** Douglas K. McDaniel  
Chief, Waste and Chemical Section  
Enforcement Division  
(415) 947-4106  
[mcdaniel.doug@epa.gov](mailto:mcdaniel.doug@epa.gov)

**To:** Pacheco-Mendez, Marisol[Marisol.Pacheco-Mendez@valero.com]  
**From:** Lin, Sharon  
**Sent:** Mon 11/27/2017 6:31:22 PM  
**Subject:** RE: Valero Benicia Refinery- EOL10 Data from Nov 16

Confirming receipt.

**From:** Pacheco-Mendez, Marisol [mailto:Marisol.Pacheco-Mendez@valero.com]  
**Sent:** Monday, November 27, 2017 10:28 AM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Cc:** Cuffel, Donald <Don.Cuffel@valero.com>; Ronan, Kimberly A <Kim.Ronan@valero.com>; Bourbon, Elizabeth <Elizabeth.Bourbon@valero.com>; Bluntzer, Megan <Megan.Bluntzer@valero.com>  
**Subject:** Valero Benicia Refinery- EOL10 Data from Nov 16

Sharon,

I apologize for not including this data in my earlier email found it buried in my inbox.....

Pursuant to item 63 of the Consent Agreement and Final Order negotiated between EPA and Valero (RCRA EPA ID No. CAD063001770, TRI ID No. 94510XXNCS3400E), please see attached for end of line (EOL) sampling point EOL-10 data collected on November 16, 2017. This data was received from the contractor laboratory on November 22, 2017.

Please confirm receipt of this email.

Please contact me if you have any questions.

Regards,

Thanks,

***Marisol Pacheco-Mendez***

Valero Benicia Refinery

Staff Environmental Engineer

707-745-7573

**To:** Pacheco-Mendez, Marisol[Marisol.Pacheco-Mendez@valero.com]  
**Cc:** Cuffel, Donald[Don.Cuffel@valero.com]; Ronan, Kimberly A[Kim.Ronan@valero.com]; Bourbon, Elizabeth[Elizabeth.Bourbon@valero.com]; Bluntzer, Megan[Megan.Bluntzer@valero.com]  
**From:** Lin, Sharon  
**Sent:** Mon 11/27/2017 4:37:46 PM  
**Subject:** RE: Valero Benicia Refinery -EOL-10 Data from November 17

Confirming receipt of the data. Thanks. Hope you had a nice Thanksgiving holiday too!

Sharon

**From:** Pacheco-Mendez, Marisol [mailto:Marisol.Pacheco-Mendez@valero.com]  
**Sent:** Monday, November 27, 2017 8:31 AM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Cc:** Cuffel, Donald <Don.Cuffel@valero.com>; Ronan, Kimberly A <Kim.Ronan@valero.com>; Bourbon, Elizabeth <Elizabeth.Bourbon@valero.com>; Bluntzer, Megan <Megan.Bluntzer@valero.com>  
**Subject:** Valero Benicia Refinery -EOL-10 Data from November 17

Morning Sharon,

Hope you had a nice Thanksgiving holiday.

Pursuant to item 63 of the Consent Agreement and Final Order negotiated between EPA and Valero (RCRA EPA ID No. CAD063001770, TRI ID No. 94510XXNCS3400E), please see attached for end of line (EOL) sampling point EOL-10 data collected on November 17, 2017. This data was received from the contractor laboratory on November 22, 2017.

Please confirm receipt of this email.

Please contact me if you have any questions.

Regards,

***Marisol Pacheco-Mendez***

Valero Benicia Refinery

Staff Environmental Engineer

707-745-7573

**To:** Yang, Teng@DTSC[Teng.Yang@dtsc.ca.gov]  
**From:** Lin, Sharon  
**Sent:** Mon 5/15/2017 6:30:26 PM  
**Subject:** RE: Shell Martinez Refinery enforcement action

Please give me a call 415 972 3446

**From:** Yang, Teng@DTSC [mailto:Teng.Yang@dtsc.ca.gov]  
**Sent:** Thursday, March 30, 2017 1:05 PM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Subject:** RE: Shell Martinez Refinery enforcement action

Sounds good Sharon. I'll give you a call soon. Have a nice vacation!

**From:** Lin, Sharon [mailto:Lin.Sharon@epa.gov]  
**Sent:** Thursday, March 30, 2017 12:03 PM  
**To:** Yang, Teng@DTSC  
**Cc:** Soria, Maria@DTSC; Schofield, John; McDaniel, Doug  
**Subject:** Shell Martinez Refinery enforcement action

Hi, Andy,

Hope you are doing well. I heard from John Schofield yesterday that you folks are pursuing enforcement action based on the inspection findings from your May 2016 inspection at Shell Martinez Refinery. Let's touch base and coordinate as we move forward with our respective action.

I will be on vacation from March 31 – April 7. Please give me a call the week of April 10 or we can touch base the week of April 17 when we are in the field in LA. Thanks.

Sharon



**To:** Vega, Jackie[Vega.Jackie@epa.gov]; Sakow, Rick[Sakow.Rick@epa.gov]  
**From:** Lin, Sharon  
**Sent:** Wed 4/26/2017 5:05:30 PM  
**Subject:** FW: additional information from Chevron El Segundo (analytical)  
RMR5254 (Coke).pdf

Please see attached – the coker product showing TC for metals. Please confirm

sharon

**From:** Girten, Nancy [mailto:Nancy.Girten@chevron.com]  
**Sent:** Wednesday, April 26, 2017 10:01 AM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Cc:** Doyle, John M <JFPI@chevron.com>  
**Subject:** additional information from Chevron El Segundo (analytical)

Hi Sharon,

Attached is the analytical for the shot Coke, as discussed last week during your visit. Additional requested information will follow this week as received. If you have any questions, please don't hesitate. Contact info below.

Thank you.

Nancy

**Nancy Girten**

Hazardous Waste Regulatory Specialist

Waste/Water Group

Health Environmental and Safety Division

**Chevron Products Company**

El Segundo Refinery

324 W. El Segundo Blvd.

El Segundo, CA 90245

310-615-5091 Direct

310-615-5153 Fax

[nancy.girten@chevron.com](mailto:nancy.girten@chevron.com)

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## LABORATORY REPORT

Prepared For: Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project: Service Order Number 4620585  
RMR#5254 Haz CC#9803

Sampled: 12/11/07  
Received: 12/13/07  
Issued: 12/27/07 16:47

NELAP #01108CA California ELAP#1197 CSDLAC #10256

*The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.  
This entire report was reviewed and approved for release.*

## SAMPLE CROSS REFERENCE

SUBCONTRACTED: Refer to the last page for specific subcontract laboratory information included in this report.

**LABORATORY ID**  
IQL1584-01

**CLIENT ID**  
RMR5254

**MATRIX**  
Solid

Reviewed By:



**TestAmerica Irvine**

Lisa Reightley For Debby Wilson  
Project Manager

Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQL1584-01 (RMR5254 - Solid)								
Reporting Units: mg/kg								
Total Recoverable Hydrocarbons	EPA 418.1	7L18072	500	31000	100	12/18/2007	12/18/2007	

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Project Manager

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IQL1584 <Page 2 of 35>

Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL1584-01 (RMR5254 - Solid)</b>								
<b>Reporting Units: ug/kg</b>								
Benzene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
Bromobenzene	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
Bromochloromethane	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
Bromodichloromethane	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
Bromoform	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
Bromomethane	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
n-Butylbenzene	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
sec-Butylbenzene	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
tert-Butylbenzene	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
Carbon tetrachloride	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
Chlorobenzene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
Chloroethane	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
Chloroform	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
Chloromethane	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
2-Chlorotoluene	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
4-Chlorotoluene	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
Dibromochloromethane	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
1,2-Dibromo-3-chloropropane	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
1,2-Dibromoethane (EDB)	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
Dibromomethane	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
1,2-Dichlorobenzene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
1,3-Dichlorobenzene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
1,4-Dichlorobenzene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
Dichlorodifluoromethane	EPA 8260B	7L17001	200	ND	99.3	12/17/2007	12/22/2007	
1,1-Dichloroethane	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
1,2-Dichloroethane	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
1,1-Dichloroethene	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
cis-1,2-Dichloroethene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
trans-1,2-Dichloroethene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
1,2-Dichloropropane	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
1,3-Dichloropropane	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
2,2-Dichloropropane	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
1,1-Dichloropropene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
cis-1,3-Dichloropropene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
trans-1,3-Dichloropropene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
Ethylbenzene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
Hexachlorobutadiene	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
Isopropylbenzene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
<b>p-Isopropyltoluene</b>	EPA 8260B	7L17001	99	<b>290</b>	99.3	12/17/2007	12/22/2007	
Methylene chloride	EPA 8260B	7L17001	990	ND	99.3	12/17/2007	12/22/2007	
Naphthalene	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	

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Project Manager

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL1584-01 (RMR5254 - Solid) - cont.</b>								
<b>Reporting Units: ug/kg</b>								
n-Propylbenzene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
Styrene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
1,1,1,2-Tetrachloroethane	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
1,1,2,2-Tetrachloroethane	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
Tetrachloroethene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
<b>Toluene</b>	EPA 8260B	7L17001	99	<b>120</b>	99.3	12/17/2007	12/22/2007	
1,2,3-Trichlorobenzene	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
1,2,4-Trichlorobenzene	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
1,1,1-Trichloroethane	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
1,1,2-Trichloroethane	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
Trichloroethene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
Trichlorofluoromethane	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
1,2,3-Trichloropropane	EPA 8260B	7L17001	500	ND	99.3	12/17/2007	12/22/2007	
<b>1,2,4-Trimethylbenzene</b>	EPA 8260B	7L17001	99	<b>170</b>	99.3	12/17/2007	12/22/2007	
<b>1,3,5-Trimethylbenzene</b>	EPA 8260B	7L17001	99	<b>740</b>	99.3	12/17/2007	12/22/2007	
Vinyl chloride	EPA 8260B	7L17001	250	ND	99.3	12/17/2007	12/22/2007	
o-Xylene	EPA 8260B	7L17001	99	ND	99.3	12/17/2007	12/22/2007	
<b>m,p-Xylenes</b>	EPA 8260B	7L17001	99	<b>270</b>	99.3	12/17/2007	12/22/2007	
<i>Surrogate: Dibromofluoromethane (55-140%)</i>				80 %				
<i>Surrogate: Toluene-d8 (60-140%)</i>				86 %				
<i>Surrogate: 4-Bromofluorobenzene (65-140%)</i>				84 %				

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Sampled: 12/11/07  
Received: 12/13/07

## SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQL1584-01 (RMR5254 - Solid)								RL2
Reporting Units: ug/kg								
Acenaphthene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Acenaphthylene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Aniline	EPA 8270C	7L17079	42000	ND	100	12/17/2007	12/17/2007	
Anthracene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Benzidine	EPA 8270C	7L17079	66000	ND	100	12/17/2007	12/17/2007	L6
Benzoic acid	EPA 8270C	7L17079	83000	ND	100	12/17/2007	12/17/2007	C
<b>Benzo(a)anthracene</b>	EPA 8270C	7L17079	33000	<b>39000</b>	100	12/17/2007	12/17/2007	
Benzo(b)fluoranthene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Benzo(k)fluoranthene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
<b>Benzo(g,h,i)perylene</b>	EPA 8270C	7L17079	33000	<b>50000</b>	100	12/17/2007	12/17/2007	
<b>Benzo(a)pyrene</b>	EPA 8270C	7L17079	33000	<b>50000</b>	100	12/17/2007	12/17/2007	
Benzyl alcohol	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Bis(2-chloroethoxy)methane	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Bis(2-chloroethyl)ether	EPA 8270C	7L17079	17000	ND	100	12/17/2007	12/17/2007	
Bis(2-chloroisopropyl)ether	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Bis(2-ethylhexyl)phthalate	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
4-Bromophenyl phenyl ether	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Butyl benzyl phthalate	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
4-Chloroaniline	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
2-Chloronaphthalene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
4-Chloro-3-methylphenol	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
2-Chlorophenol	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
4-Chlorophenyl phenyl ether	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
<b>Chrysene</b>	EPA 8270C	7L17079	33000	<b>60000</b>	100	12/17/2007	12/17/2007	
Dibenz(a,h)anthracene	EPA 8270C	7L17079	42000	ND	100	12/17/2007	12/17/2007	
Dibenzofuran	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Di-n-butyl phthalate	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
1,3-Dichlorobenzene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
1,4-Dichlorobenzene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
1,2-Dichlorobenzene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
3,3-Dichlorobenzidine	EPA 8270C	7L17079	83000	ND	100	12/17/2007	12/17/2007	
2,4-Dichlorophenol	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Diethyl phthalate	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
2,4-Dimethylphenol	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Dimethyl phthalate	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
4,6-Dinitro-2-methylphenol	EPA 8270C	7L17079	42000	ND	100	12/17/2007	12/17/2007	
2,4-Dinitrophenol	EPA 8270C	7L17079	66000	ND	100	12/17/2007	12/17/2007	
2,4-Dinitrotoluene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
2,6-Dinitrotoluene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Di-n-octyl phthalate	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Fluoranthene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	

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Project Manager

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324 W. El Segundo Boulevard  
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Attention: Alan Crosby

Project ID: Service Order Number 4620585  
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Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQL1584-01 (RMR5254 - Solid) - cont.								RL2
Reporting Units: ug/kg								
Fluorene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Hexachlorobenzene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Hexachlorobutadiene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Hexachlorocyclopentadiene	EPA 8270C	7L17079	83000	ND	100	12/17/2007	12/17/2007	
Hexachloroethane	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Indeno(1,2,3-cd)pyrene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Isophorone	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
2-Methylnaphthalene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
2-Methylphenol	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
4-Methylphenol	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Naphthalene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
2-Nitroaniline	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
3-Nitroaniline	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
4-Nitroaniline	EPA 8270C	7L17079	83000	ND	100	12/17/2007	12/17/2007	
Nitrobenzene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
2-Nitrophenol	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
4-Nitrophenol	EPA 8270C	7L17079	83000	ND	100	12/17/2007	12/17/2007	
N-Nitrosodiphenylamine	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
N-Nitroso-di-n-propylamine	EPA 8270C	7L17079	25000	ND	100	12/17/2007	12/17/2007	
Pentachlorophenol	EPA 8270C	7L17079	83000	ND	100	12/17/2007	12/17/2007	
Phenanthrene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Phenol	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
<b>Pyrene</b>	EPA 8270C	7L17079	33000	<b>87000</b>	100	12/17/2007	12/17/2007	
1,2,4-Trichlorobenzene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
2,4,5-Trichlorophenol	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
2,4,6-Trichlorophenol	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
1,2-Diphenylhydrazine/Azobenzene	EPA 8270C	7L17079	33000	ND	100	12/17/2007	12/17/2007	
Surrogate: 2-Fluorophenol (25-120%)				85 %				Z3
Surrogate: Phenol-d6 (35-120%)				90 %				Z3
Surrogate: 2,4,6-Tribromophenol (35-125%)				71 %				Z3
Surrogate: Nitrobenzene-d5 (30-120%)				88 %				Z3
Surrogate: 2-Fluorobiphenyl (35-120%)				104 %				Z3
Surrogate: Terphenyl-d14 (40-135%)				144 %				Z3

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Project Manager

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Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
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## METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IQL1584-01 (RMR5254 - Solid)</b>								
<b>Reporting Units: mg/kg</b>								
Antimony	EPA 6010B	7L14060	10	ND	1	12/14/2007	12/15/2007	
Arsenic	EPA 6010B	7L14060	2.0	<b>5.4</b>	1	12/14/2007	12/15/2007	
Barium	EPA 6010B	7L14060	1.0	<b>150</b>	1	12/14/2007	12/15/2007	
Beryllium	EPA 6010B	7L14060	0.50	ND	1	12/14/2007	12/15/2007	
Cadmium	EPA 6010B	7L14060	0.50	ND	1	12/14/2007	12/15/2007	
Chromium	EPA 6010B	7L14060	1.0	<b>24</b>	1	12/14/2007	12/15/2007	
Cobalt	EPA 6010B	7L14060	1.0	<b>8.2</b>	1	12/14/2007	12/15/2007	
Copper	EPA 6010B	7L14060	2.0	<b>45</b>	1	12/14/2007	12/15/2007	
Lead	EPA 6010B	7L14060	2.0	<b>11</b>	1	12/14/2007	12/15/2007	
Mercury	EPA 7471A	7L14076	0.020	<b>0.63</b>	1	12/14/2007	12/14/2007	
Molybdenum	EPA 6010B	7L14060	2.0	<b>5.3</b>	1	12/14/2007	12/15/2007	
Nickel	EPA 6010B	7L14060	2.0	<b>26</b>	1	12/14/2007	12/15/2007	
Selenium	EPA 6010B	7L14060	2.0	<b>2.6</b>	1	12/14/2007	12/15/2007	
Silver	EPA 6010B	7L14060	1.0	ND	1	12/14/2007	12/15/2007	
Thallium	EPA 6010B	7L14060	10	ND	1	12/14/2007	12/15/2007	
Vanadium	EPA 6010B	7L14060	1.0	<b>49</b>	1	12/14/2007	12/15/2007	
Zinc	EPA 6010B	7L14060	5.0	<b>150</b>	1	12/14/2007	12/15/2007	

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Report Number: IQL1584

Sampled: 12/11/07  
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## INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQL1584-01 (RMR5254 - Solid)								
Reporting Units: pH Units								
pH	EPA 9045C	7L14126	0.100	9.50	1	12/14/2007	12/14/2007	

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Received: 12/13/07

## POTENTIAL STLC / TCLP / TTLC LIMITS EXCEEDANCE

Analyte	Units	Sample Result	STLC Max. Limit mg/L (ppm)	TTLC Max. Limit mg/Kg (ppm)	TCLP Max. Limit mg/L (ppm)
<b>IQL1584-01 (RMR5254 - Solid) EPA 6010B</b>					
Antimony	mg/kg	ND	15	500	
Arsenic	mg/kg	5.4	5.0	500	5.0
Barium	mg/kg	150	100	10000	100
Beryllium	mg/kg	ND	0.75	75	
Cadmium	mg/kg	ND	1.0	100	1.0
Chromium	mg/kg	24	5.0	2500	5.0
Cobalt	mg/kg	8.2	80	8000	
Copper	mg/kg	45	25	2500	
Lead	mg/kg	11	5.0	1000	5.0
Mercury	mg/kg	0.63	0.20	20	0.20
Molybdenum	mg/kg	5.3	350	3500	
Nickel	mg/kg	26	20	2000	
Selenium	mg/kg	2.6	1.0	100	1.0
Silver	mg/kg	ND	5.0	500	5.0
Thallium	mg/kg	ND	7.0	700	
Vanadium	mg/kg	49	24	2400	
Zinc	mg/kg	150	250	5000	

### TestAmerica Irvine

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Project Manager

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**IQL1584 <Page 9 of 35>**

Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L18072 Extracted: 12/18/07</b>									
<b>Blank Analyzed: 12/18/2007 (7L18072-BLK1)</b>									
Total Recoverable Hydrocarbons	ND	5.0	mg/kg						
<b>LCS Analyzed: 12/18/2007 (7L18072-BS1)</b>									
Total Recoverable Hydrocarbons	13.9	5.0	mg/kg	20.0		69 55-130			
<b>Matrix Spike Analyzed: 12/18/2007 (7L18072-MS1)</b>									
Total Recoverable Hydrocarbons	11.8	5.0	mg/kg	20.0	ND	59 35-130			
<b>Matrix Spike Dup Analyzed: 12/18/2007 (7L18072-MSD1)</b>									
Total Recoverable Hydrocarbons	12.8	5.0	mg/kg	20.0	ND	64 35-130	9	25	

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17001 Extracted: 12/17/07</b>										
<b>Blank Analyzed: 12/17/2007 (7L17001-BLK1)</b>										
Benzene	ND	100	ug/kg							
Bromobenzene	ND	250	ug/kg							
Bromochloromethane	ND	250	ug/kg							
Bromodichloromethane	ND	100	ug/kg							
Bromoform	ND	250	ug/kg							
Bromomethane	ND	250	ug/kg							
n-Butylbenzene	ND	250	ug/kg							
sec-Butylbenzene	ND	250	ug/kg							
tert-Butylbenzene	ND	250	ug/kg							
Carbon tetrachloride	ND	250	ug/kg							
Chlorobenzene	ND	100	ug/kg							
Chloroethane	ND	250	ug/kg							
Chloroform	ND	100	ug/kg							
Chloromethane	ND	250	ug/kg							
2-Chlorotoluene	ND	250	ug/kg							
4-Chlorotoluene	ND	250	ug/kg							
Dibromochloromethane	ND	100	ug/kg							
1,2-Dibromo-3-chloropropane	ND	250	ug/kg							
1,2-Dibromoethane (EDB)	ND	100	ug/kg							
Dibromomethane	ND	100	ug/kg							
1,2-Dichlorobenzene	ND	100	ug/kg							
1,3-Dichlorobenzene	ND	100	ug/kg							
1,4-Dichlorobenzene	ND	100	ug/kg							
Dichlorodifluoromethane	ND	200	ug/kg							
1,1-Dichloroethane	ND	100	ug/kg							
1,2-Dichloroethane	ND	100	ug/kg							
1,1-Dichloroethene	ND	250	ug/kg							
cis-1,2-Dichloroethene	ND	100	ug/kg							
trans-1,2-Dichloroethene	ND	100	ug/kg							
1,2-Dichloropropane	ND	100	ug/kg							
1,3-Dichloropropane	ND	100	ug/kg							
2,2-Dichloropropane	ND	100	ug/kg							
1,1-Dichloropropene	ND	100	ug/kg							
cis-1,3-Dichloropropene	ND	100	ug/kg							
trans-1,3-Dichloropropene	ND	100	ug/kg							

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17001 Extracted: 12/17/07</b>										
<b>Blank Analyzed: 12/17/2007 (7L17001-BLK1)</b>										
Ethylbenzene	ND	100	ug/kg							
Hexachlorobutadiene	ND	250	ug/kg							
Isopropylbenzene	ND	100	ug/kg							
p-Isopropyltoluene	ND	100	ug/kg							
Methylene chloride	ND	1000	ug/kg							
Naphthalene	ND	250	ug/kg							
n-Propylbenzene	ND	100	ug/kg							
Styrene	ND	100	ug/kg							
1,1,1,2-Tetrachloroethane	ND	250	ug/kg							
1,1,2,2-Tetrachloroethane	ND	100	ug/kg							
Tetrachloroethene	ND	100	ug/kg							
Toluene	ND	100	ug/kg							
1,2,3-Trichlorobenzene	ND	250	ug/kg							
1,2,4-Trichlorobenzene	ND	250	ug/kg							
1,1,1-Trichloroethane	ND	100	ug/kg							
1,1,2-Trichloroethane	ND	100	ug/kg							
Trichloroethene	ND	100	ug/kg							
Trichlorofluoromethane	ND	250	ug/kg							
1,2,3-Trichloropropane	ND	500	ug/kg							
1,2,4-Trimethylbenzene	ND	100	ug/kg							
1,3,5-Trimethylbenzene	ND	100	ug/kg							
Vinyl chloride	ND	250	ug/kg							
o-Xylene	ND	100	ug/kg							
m,p-Xylenes	ND	100	ug/kg							
Surrogate: Dibromofluoromethane	2440		ug/kg	2500		98	55-140			
Surrogate: Toluene-d8	2480		ug/kg	2500		99	60-140			
Surrogate: 4-Bromofluorobenzene	2240		ug/kg	2500		90	65-140			

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Project ID: Service Order Number 4620585  
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Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17001 Extracted: 12/17/07</b>										
<b>LCS Analyzed: 12/17/2007 (7L17001-BS1)</b>										
Benzene	2380	100	ug/kg	2500		95	65-120			
Bromobenzene	2330	250	ug/kg	2500		93	70-120			
Bromochloromethane	2530	250	ug/kg	2500		101	65-125			
Bromodichloromethane	2400	100	ug/kg	2500		96	65-135			
Bromoform	1900	250	ug/kg	2500		76	50-130			
Bromomethane	2350	250	ug/kg	2500		94	30-140			
n-Butylbenzene	2420	250	ug/kg	2500		97	70-130			
sec-Butylbenzene	2440	250	ug/kg	2500		98	70-125			
tert-Butylbenzene	2320	250	ug/kg	2500		93	70-125			
Carbon tetrachloride	2190	250	ug/kg	2500		88	65-145			
Chlorobenzene	2360	100	ug/kg	2500		94	70-125			
Chloroethane	2360	250	ug/kg	2500		95	40-140			
Chloroform	2560	100	ug/kg	2500		103	75-130			
Chloromethane	2590	250	ug/kg	2500		104	30-140			
2-Chlorotoluene	2460	250	ug/kg	2500		98	70-125			
4-Chlorotoluene	2500	250	ug/kg	2500		100	70-125			
Dibromochloromethane	2240	100	ug/kg	2500		90	65-140			
1,2-Dibromo-3-chloropropane	2230	250	ug/kg	2500		89	45-135			
1,2-Dibromoethane (EDB)	2270	100	ug/kg	2500		91	70-130			
Dibromomethane	2400	100	ug/kg	2500		96	65-130			
1,2-Dichlorobenzene	2440	100	ug/kg	2500		97	70-120			
1,3-Dichlorobenzene	2420	100	ug/kg	2500		97	70-125			
1,4-Dichlorobenzene	2310	100	ug/kg	2500		92	70-125			
Dichlorodifluoromethane	3150	200	ug/kg	2500		126	10-155			
1,1-Dichloroethane	2580	100	ug/kg	2500		103	65-130			
1,2-Dichloroethane	2440	100	ug/kg	2500		98	60-145			
1,1-Dichloroethene	2150	250	ug/kg	2500		86	75-140			
cis-1,2-Dichloroethene	2510	100	ug/kg	2500		100	65-130			
trans-1,2-Dichloroethene	2510	100	ug/kg	2500		100	65-130			
1,2-Dichloropropane	2490	100	ug/kg	2500		100	75-125			
1,3-Dichloropropane	2350	100	ug/kg	2500		94	65-130			
2,2-Dichloropropane	2630	100	ug/kg	2500		105	60-145			
1,1-Dichloropropene	2310	100	ug/kg	2500		93	70-130			
cis-1,3-Dichloropropene	2150	100	ug/kg	2500		86	70-130			
trans-1,3-Dichloropropene	2160	100	ug/kg	2500		87	65-135			

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17001 Extracted: 12/17/07</b>									
<b>LCS Analyzed: 12/17/2007 (7L17001-BS1)</b>									
Ethylbenzene	2370	100	ug/kg	2500		95	80-120		
Hexachlorobutadiene	2190	250	ug/kg	2500		88	60-135		
Isopropylbenzene	2720	100	ug/kg	2500		109	70-125		
p-Isopropyltoluene	2330	100	ug/kg	2500		93	70-125		
Methylene chloride	2460	1000	ug/kg	2500		99	60-140		
Naphthalene	2340	250	ug/kg	2500		93	50-140		
n-Propylbenzene	2600	100	ug/kg	2500		104	70-130		
Styrene	2390	100	ug/kg	2500		96	70-135		
1,1,1,2-Tetrachloroethane	2190	250	ug/kg	2500		88	70-140		
1,1,2,2-Tetrachloroethane	2520	100	ug/kg	2500		101	55-135		
Tetrachloroethene	2090	100	ug/kg	2500		83	65-125		
Toluene	2370	100	ug/kg	2500		95	80-120		
1,2,3-Trichlorobenzene	2330	250	ug/kg	2500		93	60-135		
1,2,4-Trichlorobenzene	2380	250	ug/kg	2500		95	65-135		
1,1,1-Trichloroethane	2450	100	ug/kg	2500		98	65-140		
1,1,2-Trichloroethane	2480	100	ug/kg	2500		99	65-130		
Trichloroethene	2250	100	ug/kg	2500		90	70-130		
Trichlorofluoromethane	2460	250	ug/kg	2500		98	50-145		
1,2,3-Trichloropropane	2420	500	ug/kg	2500		97	55-130		
1,2,4-Trimethylbenzene	2370	100	ug/kg	2500		95	70-125		
1,3,5-Trimethylbenzene	2380	100	ug/kg	2500		95	70-125		
Vinyl chloride	1000	250	ug/kg	2500		40	10-120		
o-Xylene	2310	100	ug/kg	2500		92	70-125		
m,p-Xylenes	4640	100	ug/kg	5000		93	70-125		
Surrogate: Dibromofluoromethane	2540		ug/kg	2500		102	55-140		
Surrogate: Toluene-d8	2510		ug/kg	2500		100	60-140		
Surrogate: 4-Bromofluorobenzene	2350		ug/kg	2500		94	65-140		

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Project Manager

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17001 Extracted: 12/17/07</b>										
<b>LCS Dup Analyzed: 12/17/2007 (7L17001-BSD1)</b>										
Benzene	2600	100	ug/kg	2500		104	65-120	9	20	
Bromobenzene	2550	250	ug/kg	2500		102	70-120	9	20	
Bromochloromethane	2770	250	ug/kg	2500		111	65-125	9	20	
Bromodichloromethane	2640	100	ug/kg	2500		106	65-135	10	20	
Bromoform	2100	250	ug/kg	2500		84	50-130	10	25	
Bromomethane	2570	250	ug/kg	2500		103	30-140	9	30	
n-Butylbenzene	2610	250	ug/kg	2500		105	70-130	8	20	
sec-Butylbenzene	2660	250	ug/kg	2500		106	70-125	9	20	
tert-Butylbenzene	2570	250	ug/kg	2500		103	70-125	10	20	
Carbon tetrachloride	2450	250	ug/kg	2500		98	65-145	11	20	
Chlorobenzene	2550	100	ug/kg	2500		102	70-125	8	20	
Chloroethane	2660	250	ug/kg	2500		106	40-140	12	25	
Chloroform	2810	100	ug/kg	2500		113	75-130	9	20	
Chloromethane	2830	250	ug/kg	2500		113	30-140	9	25	
2-Chlorotoluene	2670	250	ug/kg	2500		107	70-125	8	20	
4-Chlorotoluene	2720	250	ug/kg	2500		109	70-125	8	20	
Dibromochloromethane	2460	100	ug/kg	2500		98	65-140	9	20	
1,2-Dibromo-3-chloropropane	2380	250	ug/kg	2500		95	45-135	7	25	
1,2-Dibromoethane (EDB)	2450	100	ug/kg	2500		98	70-130	8	20	
Dibromomethane	2590	100	ug/kg	2500		104	65-130	8	20	
1,2-Dichlorobenzene	2640	100	ug/kg	2500		106	70-120	8	20	
1,3-Dichlorobenzene	2660	100	ug/kg	2500		106	70-125	9	20	
1,4-Dichlorobenzene	2560	100	ug/kg	2500		102	70-125	10	20	
Dichlorodifluoromethane	3410	200	ug/kg	2500		136	10-155	8	30	
1,1-Dichloroethane	2840	100	ug/kg	2500		113	65-130	9	20	
1,2-Dichloroethane	2630	100	ug/kg	2500		105	60-145	7	20	
1,1-Dichloroethene	2360	250	ug/kg	2500		94	75-140	10	20	
cis-1,2-Dichloroethene	2740	100	ug/kg	2500		110	65-130	9	20	
trans-1,2-Dichloroethene	2750	100	ug/kg	2500		110	65-130	9	20	
1,2-Dichloropropane	2750	100	ug/kg	2500		110	75-125	10	20	
1,3-Dichloropropane	2590	100	ug/kg	2500		103	65-130	9	20	
2,2-Dichloropropane	2830	100	ug/kg	2500		113	60-145	7	25	
1,1-Dichloropropene	2550	100	ug/kg	2500		102	70-130	10	20	
cis-1,3-Dichloropropene	2370	100	ug/kg	2500		95	70-130	10	20	
trans-1,3-Dichloropropene	2370	100	ug/kg	2500		95	65-135	9	20	

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Project Manager

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17001 Extracted: 12/17/07</b>										
<b>LCS Dup Analyzed: 12/17/2007 (7L17001-BSD1)</b>										
Ethylbenzene	2600	100	ug/kg	2500		104	80-120	9	20	
Hexachlorobutadiene	2430	250	ug/kg	2500		97	60-135	10	20	
Isopropylbenzene	2920	100	ug/kg	2500		117	70-125	7	20	
p-Isopropyltoluene	2560	100	ug/kg	2500		103	70-125	10	20	
Methylene chloride	2680	1000	ug/kg	2500		107	60-140	8	20	
Naphthalene	2530	250	ug/kg	2500		101	50-140	8	25	
n-Propylbenzene	2820	100	ug/kg	2500		113	70-130	8	20	
Styrene	2620	100	ug/kg	2500		105	70-135	9	20	
1,1,1,2-Tetrachloroethane	2420	250	ug/kg	2500		97	70-140	10	20	
1,1,2,2-Tetrachloroethane	2690	100	ug/kg	2500		107	55-135	6	25	
Tetrachloroethene	2300	100	ug/kg	2500		92	65-125	10	20	
Toluene	2620	100	ug/kg	2500		105	80-120	10	20	
1,2,3-Trichlorobenzene	2560	250	ug/kg	2500		102	60-135	9	20	
1,2,4-Trichlorobenzene	2620	250	ug/kg	2500		105	65-135	10	20	
1,1,1-Trichloroethane	2710	100	ug/kg	2500		108	65-140	10	20	
1,1,2-Trichloroethane	2680	100	ug/kg	2500		107	65-130	8	20	
Trichloroethene	2480	100	ug/kg	2500		99	70-130	10	20	
Trichlorofluoromethane	2680	250	ug/kg	2500		107	50-145	8	25	
1,2,3-Trichloropropane	2580	500	ug/kg	2500		103	55-130	6	25	
1,2,4-Trimethylbenzene	2580	100	ug/kg	2500		103	70-125	9	20	
1,3,5-Trimethylbenzene	2610	100	ug/kg	2500		105	70-125	9	20	
Vinyl chloride	1050	250	ug/kg	2500		42	10-120	4	30	
o-Xylene	2520	100	ug/kg	2500		101	70-125	9	20	
m,p-Xylenes	5090	100	ug/kg	5000		102	70-125	9	20	
Surrogate: Dibromofluoromethane	2720		ug/kg	2500		109	55-140			
Surrogate: Toluene-d8	2720		ug/kg	2500		109	60-140			
Surrogate: 4-Bromofluorobenzene	2530		ug/kg	2500		101	65-140			

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Project Manager

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324 W. El Segundo Boulevard  
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Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17001 Extracted: 12/17/07</b>										
<b>Matrix Spike Analyzed: 12/18/2007 (7L17001-MS1)</b>					<b>Source: IQL1570-02</b>					
Benzene	2490	100	ug/kg	2500	ND	100	55-140			
Bromobenzene	2500	250	ug/kg	2500	ND	100	60-140			
Bromochloromethane	2640	250	ug/kg	2500	ND	106	60-145			
Bromodichloromethane	2550	100	ug/kg	2500	ND	102	60-150			
Bromoform	2000	250	ug/kg	2500	ND	80	50-140			
Bromomethane	2440	250	ug/kg	2500	ND	98	30-140			
n-Butylbenzene	2470	250	ug/kg	2500	ND	99	55-155			
sec-Butylbenzene	2550	250	ug/kg	2500	ND	102	55-145			
tert-Butylbenzene	2470	250	ug/kg	2500	ND	99	65-150			
Carbon tetrachloride	2360	250	ug/kg	2500	ND	95	65-145			
Chlorobenzene	2450	100	ug/kg	2500	ND	98	65-145			
Chloroethane	2580	250	ug/kg	2500	ND	103	35-140			
Chloroform	2740	100	ug/kg	2500	ND	110	60-140			
Chloromethane	2580	250	ug/kg	2500	ND	103	25-140			
2-Chlorotoluene	2550	250	ug/kg	2500	ND	102	60-145			
4-Chlorotoluene	2610	250	ug/kg	2500	ND	105	65-140			
Dibromochloromethane	2420	100	ug/kg	2500	ND	97	55-150			
1,2-Dibromo-3-chloropropane	2170	250	ug/kg	2500	ND	87	40-160			
1,2-Dibromoethane (EDB)	2400	100	ug/kg	2500	ND	96	65-145			
Dibromomethane	2500	100	ug/kg	2500	ND	100	65-135			
1,2-Dichlorobenzene	2500	100	ug/kg	2500	ND	100	60-135			
1,3-Dichlorobenzene	2480	100	ug/kg	2500	ND	99	60-145			
1,4-Dichlorobenzene	2370	100	ug/kg	2500	ND	95	60-140			
Dichlorodifluoromethane	2550	200	ug/kg	2500	ND	102	10-155			
1,1-Dichloroethane	2640	100	ug/kg	2500	ND	106	60-145			
1,2-Dichloroethane	2460	100	ug/kg	2500	ND	98	60-145			
1,1-Dichloroethene	2260	250	ug/kg	2500	ND	90	55-155			
cis-1,2-Dichloroethene	2630	100	ug/kg	2500	ND	105	55-135			
trans-1,2-Dichloroethene	2710	100	ug/kg	2500	ND	109	55-145			
1,2-Dichloropropane	2530	100	ug/kg	2500	ND	101	60-140			
1,3-Dichloropropane	2490	100	ug/kg	2500	ND	100	65-135			
2,2-Dichloropropane	2400	100	ug/kg	2500	ND	96	50-150			
1,1-Dichloropropene	2400	100	ug/kg	2500	ND	96	60-140			
cis-1,3-Dichloropropene	2200	100	ug/kg	2500	ND	88	65-140			
trans-1,3-Dichloropropene	2180	100	ug/kg	2500	ND	87	60-145			

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Project Manager

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17001 Extracted: 12/17/07</b>										
<b>Matrix Spike Analyzed: 12/18/2007 (7L17001-MS1)</b>					<b>Source: IQL1570-02</b>					
Ethylbenzene	2510	100	ug/kg	2500	ND	101	50-150			
Hexachlorobutadiene	2570	250	ug/kg	2500	ND	103	55-145			
Isopropylbenzene	2920	100	ug/kg	2500	ND	117	65-145			
p-Isopropyltoluene	2390	100	ug/kg	2500	ND	96	60-140			
Methylene chloride	2520	1000	ug/kg	2500	ND	101	55-145			
Naphthalene	2410	250	ug/kg	2500	ND	96	35-160			
n-Propylbenzene	2700	100	ug/kg	2500	ND	108	50-150			
Styrene	2500	100	ug/kg	2500	ND	100	60-150			
1,1,1,2-Tetrachloroethane	2360	250	ug/kg	2500	ND	94	60-150			
1,1,2,2-Tetrachloroethane	2600	100	ug/kg	2500	ND	104	50-145			
Tetrachloroethene	2310	100	ug/kg	2500	ND	93	60-150			
Toluene	2510	100	ug/kg	2500	ND	100	55-140			
1,2,3-Trichlorobenzene	2480	250	ug/kg	2500	ND	99	50-140			
1,2,4-Trichlorobenzene	2500	250	ug/kg	2500	ND	100	60-140			
1,1,1-Trichloroethane	2580	100	ug/kg	2500	ND	103	60-140			
1,1,2-Trichloroethane	2600	100	ug/kg	2500	ND	104	60-145			
Trichloroethene	2370	100	ug/kg	2500	ND	95	65-150			
Trichlorofluoromethane	2730	250	ug/kg	2500	ND	109	35-150			
1,2,3-Trichloropropane	2580	500	ug/kg	2500	ND	103	50-145			
1,2,4-Trimethylbenzene	2480	100	ug/kg	2500	ND	99	60-140			
1,3,5-Trimethylbenzene	2500	100	ug/kg	2500	ND	100	65-140			
Vinyl chloride	686	250	ug/kg	2500	ND	27	10-120			
o-Xylene	2520	100	ug/kg	2500	ND	101	55-145			
m,p-Xylenes	4940	100	ug/kg	5000	ND	99	60-145			
Surrogate: Dibromofluoromethane	2680		ug/kg	2500		107	55-140			
Surrogate: Toluene-d8	2480		ug/kg	2500		99	60-140			
Surrogate: 4-Bromofluorobenzene	2360		ug/kg	2500		94	65-140			

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17001 Extracted: 12/17/07</b>										
<b>Matrix Spike Dup Analyzed: 12/18/2007 (7L17001-MSD1)</b>					<b>Source: IQL1570-02</b>					
Benzene	2290	99	ug/kg	2480	ND	93	55-140	8	25	
Bromobenzene	2290	250	ug/kg	2480	ND	92	60-140	9	25	
Bromochloromethane	2450	250	ug/kg	2480	ND	99	60-145	7	25	
Bromodichloromethane	2330	99	ug/kg	2480	ND	94	60-150	9	25	
Bromoform	1820	250	ug/kg	2480	ND	74	50-140	9	30	
Bromomethane	2190	250	ug/kg	2480	ND	88	30-140	11	30	
n-Butylbenzene	2270	250	ug/kg	2480	ND	91	55-155	9	25	
sec-Butylbenzene	2340	250	ug/kg	2480	ND	94	55-145	9	25	
tert-Butylbenzene	2290	250	ug/kg	2480	ND	93	65-150	7	25	
Carbon tetrachloride	2140	250	ug/kg	2480	ND	87	65-145	10	25	
Chlorobenzene	2260	99	ug/kg	2480	ND	91	65-145	8	25	
Chloroethane	2340	250	ug/kg	2480	ND	95	35-140	10	30	
Chloroform	2490	99	ug/kg	2480	ND	100	60-140	10	25	
Chloromethane	2310	250	ug/kg	2480	ND	93	25-140	11	30	
2-Chlorotoluene	2360	250	ug/kg	2480	ND	95	60-145	7	25	
4-Chlorotoluene	2380	250	ug/kg	2480	ND	96	65-140	9	25	
Dibromochloromethane	2190	99	ug/kg	2480	ND	88	55-150	10	25	
1,2-Dibromo-3-chloropropane	1890	250	ug/kg	2480	ND	76	40-160	14	30	
1,2-Dibromoethane (EDB)	2160	99	ug/kg	2480	ND	87	65-145	11	25	
Dibromomethane	2240	99	ug/kg	2480	ND	90	65-135	11	25	
1,2-Dichlorobenzene	2300	99	ug/kg	2480	ND	93	60-135	9	25	
1,3-Dichlorobenzene	2340	99	ug/kg	2480	ND	94	60-145	6	25	
1,4-Dichlorobenzene	2160	99	ug/kg	2480	ND	87	60-140	9	25	
Dichlorodifluoromethane	2070	200	ug/kg	2480	ND	83	10-155	21	35	
1,1-Dichloroethane	2430	99	ug/kg	2480	ND	98	60-145	8	25	
1,2-Dichloroethane	2190	99	ug/kg	2480	ND	89	60-145	11	25	
1,1-Dichloroethene	2060	250	ug/kg	2480	ND	83	55-155	9	25	
cis-1,2-Dichloroethene	2440	99	ug/kg	2480	ND	99	55-135	8	25	
trans-1,2-Dichloroethene	2450	99	ug/kg	2480	ND	99	55-145	10	25	
1,2-Dichloropropane	2340	99	ug/kg	2480	ND	95	60-140	8	25	
1,3-Dichloropropane	2280	99	ug/kg	2480	ND	92	65-135	8	25	
2,2-Dichloropropane	2180	99	ug/kg	2480	ND	88	50-150	10	25	
1,1-Dichloropropene	2190	99	ug/kg	2480	ND	88	60-140	9	25	
cis-1,3-Dichloropropene	1990	99	ug/kg	2480	ND	80	65-140	10	25	
trans-1,3-Dichloropropene	1980	99	ug/kg	2480	ND	80	60-145	10	25	

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17001 Extracted: 12/17/07</b>										
<b>Matrix Spike Dup Analyzed: 12/18/2007 (7L17001-MSD1)</b>					<b>Source: IQL1570-02</b>					
Ethylbenzene	2320	99	ug/kg	2480	ND	94	50-150	8	25	
Hexachlorobutadiene	2400	250	ug/kg	2480	ND	97	55-145	7	35	
Isopropylbenzene	2670	99	ug/kg	2480	ND	108	65-145	9	25	
p-Isopropyltoluene	2210	99	ug/kg	2480	ND	89	60-140	8	25	
Methylene chloride	2350	990	ug/kg	2480	ND	95	55-145	7	25	
Naphthalene	2300	250	ug/kg	2480	ND	93	35-160	4	30	
n-Propylbenzene	2490	99	ug/kg	2480	ND	101	50-150	8	25	
Styrene	2310	99	ug/kg	2480	ND	93	60-150	8	25	
1,1,1,2-Tetrachloroethane	2200	250	ug/kg	2480	ND	89	60-150	7	20	
1,1,2,2-Tetrachloroethane	2340	99	ug/kg	2480	ND	94	50-145	10	25	
Tetrachloroethene	2160	99	ug/kg	2480	ND	87	60-150	7	25	
Toluene	2300	99	ug/kg	2480	ND	93	55-140	9	25	
1,2,3-Trichlorobenzene	2410	250	ug/kg	2480	ND	97	50-140	3	25	
1,2,4-Trichlorobenzene	2380	250	ug/kg	2480	ND	96	60-140	5	25	
1,1,1-Trichloroethane	2360	99	ug/kg	2480	ND	95	60-140	9	20	
1,1,2-Trichloroethane	2360	99	ug/kg	2480	ND	95	60-145	10	25	
Trichloroethene	2200	99	ug/kg	2480	ND	89	65-150	7	25	
Trichlorofluoromethane	2420	250	ug/kg	2480	ND	98	35-150	12	30	
1,2,3-Trichloropropane	2290	500	ug/kg	2480	ND	92	50-145	12	30	
1,2,4-Trimethylbenzene	2270	99	ug/kg	2480	ND	91	60-140	9	25	
1,3,5-Trimethylbenzene	2260	99	ug/kg	2480	ND	91	65-140	10	25	
Vinyl chloride	617	250	ug/kg	2480	ND	25	10-120	11	35	
o-Xylene	2300	99	ug/kg	2480	ND	93	55-145	9	25	
m,p-Xylenes	4540	99	ug/kg	4960	ND	92	60-145	8	25	
Surrogate: Dibromofluoromethane	2370		ug/kg	2480		95	55-140			
Surrogate: Toluene-d8	2230		ug/kg	2480		90	60-140			
Surrogate: 4-Bromofluorobenzene	2060		ug/kg	2480		83	65-140			

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17079 Extracted: 12/17/07</b>										
<b>Blank Analyzed: 12/17/2007 (7L17079-BLK1)</b>										
Acenaphthene	ND	330	ug/kg							
Acenaphthylene	ND	330	ug/kg							
Aniline	ND	420	ug/kg							
Anthracene	ND	330	ug/kg							
Benzidine	ND	660	ug/kg							
Benzoic acid	ND	830	ug/kg							
Benzo(a)anthracene	ND	330	ug/kg							
Benzo(b)fluoranthene	ND	330	ug/kg							
Benzo(k)fluoranthene	ND	330	ug/kg							
Benzo(g,h,i)perylene	ND	330	ug/kg							
Benzo(a)pyrene	ND	330	ug/kg							
Benzyl alcohol	ND	330	ug/kg							
Bis(2-chloroethoxy)methane	ND	330	ug/kg							
Bis(2-chloroethyl)ether	ND	170	ug/kg							
Bis(2-chloroisopropyl)ether	ND	330	ug/kg							
Bis(2-ethylhexyl)phthalate	ND	330	ug/kg							
4-Bromophenyl phenyl ether	ND	330	ug/kg							
Butyl benzyl phthalate	ND	330	ug/kg							
4-Chloroaniline	ND	330	ug/kg							
2-Chloronaphthalene	ND	330	ug/kg							
4-Chloro-3-methylphenol	ND	330	ug/kg							
2-Chlorophenol	ND	330	ug/kg							
4-Chlorophenyl phenyl ether	ND	330	ug/kg							
Chrysene	ND	330	ug/kg							
Dibenz(a,h)anthracene	ND	420	ug/kg							
Dibenzofuran	ND	330	ug/kg							
Di-n-butyl phthalate	ND	330	ug/kg							
1,3-Dichlorobenzene	ND	330	ug/kg							
1,4-Dichlorobenzene	ND	330	ug/kg							
1,2-Dichlorobenzene	ND	330	ug/kg							
3,3-Dichlorobenzidine	ND	830	ug/kg							
2,4-Dichlorophenol	ND	330	ug/kg							
Diethyl phthalate	ND	330	ug/kg							
2,4-Dimethylphenol	ND	330	ug/kg							
Dimethyl phthalate	ND	330	ug/kg							

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Project Manager

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17079 Extracted: 12/17/07</b>										
<b>Blank Analyzed: 12/17/2007 (7L17079-BLK1)</b>										
4,6-Dinitro-2-methylphenol	ND	420	ug/kg							
2,4-Dinitrophenol	ND	660	ug/kg							
2,4-Dinitrotoluene	ND	330	ug/kg							
2,6-Dinitrotoluene	ND	330	ug/kg							
Di-n-octyl phthalate	ND	330	ug/kg							
Fluoranthene	ND	330	ug/kg							
Fluorene	ND	330	ug/kg							
Hexachlorobenzene	ND	330	ug/kg							
Hexachlorobutadiene	ND	330	ug/kg							
Hexachlorocyclopentadiene	ND	830	ug/kg							
Hexachloroethane	ND	330	ug/kg							
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg							
Isophorone	ND	330	ug/kg							
2-Methylnaphthalene	ND	330	ug/kg							
2-Methylphenol	ND	330	ug/kg							
4-Methylphenol	ND	330	ug/kg							
Naphthalene	ND	330	ug/kg							
2-Nitroaniline	ND	330	ug/kg							
3-Nitroaniline	ND	330	ug/kg							
4-Nitroaniline	ND	830	ug/kg							
Nitrobenzene	ND	330	ug/kg							
2-Nitrophenol	ND	330	ug/kg							
4-Nitrophenol	ND	830	ug/kg							
N-Nitrosodiphenylamine	ND	330	ug/kg							
N-Nitroso-di-n-propylamine	ND	250	ug/kg							
Pentachlorophenol	ND	830	ug/kg							
Phenanthrene	ND	330	ug/kg							
Phenol	ND	330	ug/kg							
Pyrene	ND	330	ug/kg							
1,2,4-Trichlorobenzene	ND	330	ug/kg							
2,4,5-Trichlorophenol	ND	330	ug/kg							
2,4,6-Trichlorophenol	ND	330	ug/kg							
1,2-Diphenylhydrazine/Azobenzene	ND	330	ug/kg							
Surrogate: 2-Fluorophenol	6060		ug/kg	6670		91	25-120			
Surrogate: Phenol-d6	5600		ug/kg	6670		84	35-120			

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Project Manager

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17079 Extracted: 12/17/07</b>										
<b>Blank Analyzed: 12/17/2007 (7L17079-BLK1)</b>										
Surrogate: 2,4,6-Tribromophenol	6770		ug/kg	6670		102	35-125			
Surrogate: Nitrobenzene-d5	2310		ug/kg	3330		69	30-120			
Surrogate: 2-Fluorobiphenyl	2750		ug/kg	3330		83	35-120			
Surrogate: Terphenyl-d14	3420		ug/kg	3330		103	40-135			
<b>LCS Analyzed: 12/17/2007 (7L17079-BS1)</b>										
Acenaphthene	2780	330	ug/kg	3330		84	50-120			
Acenaphthylene	3280	330	ug/kg	3330		98	50-120			
Aniline	2870	420	ug/kg	3330		86	25-120			
Anthracene	2890	330	ug/kg	3330		87	55-120			
Benzidine	4180	660	ug/kg	3330		125	20-120			L6
Benzoic acid	3920	830	ug/kg	3330		117	20-120			
Benzo(a)anthracene	3300	330	ug/kg	3330		99	55-120			
Benzo(b)fluoranthene	3010	330	ug/kg	3330		90	45-125			
Benzo(k)fluoranthene	2840	330	ug/kg	3330		85	45-125			
Benzo(g,h,i)perylene	3390	330	ug/kg	3330		102	35-130			
Benzo(a)pyrene	3240	330	ug/kg	3330		97	50-125			
Benzyl alcohol	3810	330	ug/kg	3330		114	35-120			
Bis(2-chloroethoxy)methane	2660	330	ug/kg	3330		80	45-120			
Bis(2-chloroethyl)ether	2600	170	ug/kg	3330		78	35-120			
Bis(2-chloroisopropyl)ether	2930	330	ug/kg	3330		88	40-120			
Bis(2-ethylhexyl)phthalate	3740	330	ug/kg	3330		112	50-130			
4-Bromophenyl phenyl ether	2810	330	ug/kg	3330		84	45-120			
Butyl benzyl phthalate	3780	330	ug/kg	3330		113	50-125			
4-Chloroaniline	2450	330	ug/kg	3330		74	20-120			
2-Chloronaphthalene	2910	330	ug/kg	3330		87	45-120			
4-Chloro-3-methylphenol	3310	330	ug/kg	3330		99	50-125			
2-Chlorophenol	3050	330	ug/kg	3330		92	40-120			
4-Chlorophenyl phenyl ether	2740	330	ug/kg	3330		82	55-120			
Chrysene	3260	330	ug/kg	3330		98	55-120			
Dibenz(a,h)anthracene	3030	420	ug/kg	3330		91	40-135			
Dibenzofuran	2750	330	ug/kg	3330		82	55-120			
Di-n-butyl phthalate	3100	330	ug/kg	3330		93	50-125			
1,3-Dichlorobenzene	2420	330	ug/kg	3330		73	35-120			
1,4-Dichlorobenzene	2500	330	ug/kg	3330		75	35-120			
1,2-Dichlorobenzene	2580	330	ug/kg	3330		77	40-120			

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17079 Extracted: 12/17/07</b>										
<b>LCS Analyzed: 12/17/2007 (7L17079-BS1)</b>										
3,3-Dichlorobenzidine	3000	830	ug/kg	3330		90	20-130			
2,4-Dichlorophenol	3280	330	ug/kg	3330		98	45-120			
Diethyl phthalate	3140	330	ug/kg	3330		94	50-125			
2,4-Dimethylphenol	3110	330	ug/kg	3330		93	40-120			
Dimethyl phthalate	3060	330	ug/kg	3330		92	50-125			
4,6-Dinitro-2-methylphenol	2920	420	ug/kg	3330		88	40-120			
2,4-Dinitrophenol	3280	660	ug/kg	3330		98	25-120			
2,4-Dinitrotoluene	3200	330	ug/kg	3330		96	55-125			
2,6-Dinitrotoluene	3150	330	ug/kg	3330		95	55-125			
Di-n-octyl phthalate	3830	330	ug/kg	3330		115	50-135			
Fluoranthene	2940	330	ug/kg	3330		88	55-120			
Fluorene	2820	330	ug/kg	3330		85	55-120			
Hexachlorobenzene	2690	330	ug/kg	3330		81	50-120			
Hexachlorobutadiene	2560	330	ug/kg	3330		77	40-120			
Hexachlorocyclopentadiene	3530	830	ug/kg	3330		106	30-125			
Hexachloroethane	2300	330	ug/kg	3330		69	40-120			
Indeno(1,2,3-cd)pyrene	3400	330	ug/kg	3330		102	30-135			
Isophorone	2580	330	ug/kg	3330		78	40-120			
2-Methylnaphthalene	2880	330	ug/kg	3330		86	45-120			
2-Methylphenol	3220	330	ug/kg	3330		97	40-120			
4-Methylphenol	3260	330	ug/kg	3330		98	45-120			
Naphthalene	2720	330	ug/kg	3330		82	45-120			
2-Nitroaniline	2740	330	ug/kg	3330		82	50-125			
3-Nitroaniline	3030	330	ug/kg	3330		91	35-120			
4-Nitroaniline	3430	830	ug/kg	3330		103	45-125			
Nitrobenzene	2510	330	ug/kg	3330		75	45-120			
2-Nitrophenol	3040	330	ug/kg	3330		91	45-120			
4-Nitrophenol	3790	830	ug/kg	3330		114	40-125			
N-Nitrosodiphenylamine	2900	330	ug/kg	3330		87	50-120			
N-Nitroso-di-n-propylamine	2530	250	ug/kg	3330		76	40-120			
Pentachlorophenol	3360	830	ug/kg	3330		101	40-120			
Phenanthrene	2840	330	ug/kg	3330		85	50-120			
Phenol	3170	330	ug/kg	3330		95	40-120			
Pyrene	3600	330	ug/kg	3330		108	45-125			
1,2,4-Trichlorobenzene	2650	330	ug/kg	3330		79	40-120			

#### TestAmerica Irvine

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Project Manager

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**IQL1584 <Page 24 of 35>**

Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17079 Extracted: 12/17/07</b>										
<b>LCS Analyzed: 12/17/2007 (7L17079-BS1)</b>										
2,4,5-Trichlorophenol	3050	330	ug/kg	3330		92	50-120			
2,4,6-Trichlorophenol	3070	330	ug/kg	3330		92	50-120			
1,2-Diphenylhydrazine/Azobenzene	2630	330	ug/kg	3330		79	50-125			
Surrogate: 2-Fluorophenol	6410		ug/kg	6670		96	25-120			
Surrogate: Phenol-d6	6230		ug/kg	6670		93	35-120			
Surrogate: 2,4,6-Tribromophenol	6490		ug/kg	6670		97	35-125			
Surrogate: Nitrobenzene-d5	2420		ug/kg	3330		72	30-120			
Surrogate: 2-Fluorobiphenyl	2820		ug/kg	3330		84	35-120			
Surrogate: Terphenyl-d14	3510		ug/kg	3330		105	40-135			
<b>Matrix Spike Analyzed: 12/17/2007 (7L17079-MS1)</b>										
					<b>Source: IQL1307-26RE1</b>					
Acenaphthene	2780	330	ug/kg	3330	ND	83	45-120			M2
Acenaphthylene	3280	330	ug/kg	3330	ND	98	45-120			
Aniline	2400	420	ug/kg	3330	ND	72	25-120			
Anthracene	2920	330	ug/kg	3330	ND	88	55-120			
Benzidine	ND	660	ug/kg	3330	ND		20-120			
Benzoic acid	3070	830	ug/kg	3330	ND	92	20-120			
Benzo(a)anthracene	3270	330	ug/kg	3330	ND	98	50-120			
Benzo(b)fluoranthene	3010	330	ug/kg	3330	ND	90	45-125			
Benzo(k)fluoranthene	3010	330	ug/kg	3330	ND	90	45-125			
Benzo(g,h,i)perylene	3220	330	ug/kg	3330	ND	97	25-130			
Benzo(a)pyrene	3160	330	ug/kg	3330	ND	95	45-125			
Benzyl alcohol	3710	330	ug/kg	3330	ND	111	20-120			
Bis(2-chloroethoxy)methane	2620	330	ug/kg	3330	ND	78	45-120			
Bis(2-chloroethyl)ether	2530	170	ug/kg	3330	ND	76	35-110			
Bis(2-chloroisopropyl)ether	2820	330	ug/kg	3330	ND	85	40-120			
Bis(2-ethylhexyl)phthalate	3840	330	ug/kg	3330	ND	115	45-130			
4-Bromophenyl phenyl ether	2850	330	ug/kg	3330	ND	85	45-120			
Butyl benzyl phthalate	3770	330	ug/kg	3330	ND	113	45-125			
4-Chloroaniline	1890	330	ug/kg	3330	ND	57	20-120			
2-Chloronaphthalene	2830	330	ug/kg	3330	ND	85	45-120			
4-Chloro-3-methylphenol	3310	330	ug/kg	3330	ND	99	50-125			
2-Chlorophenol	2950	330	ug/kg	3330	ND	88	40-120			
4-Chlorophenyl phenyl ether	2680	330	ug/kg	3330	ND	80	50-120			
Chrysene	3200	330	ug/kg	3330	ND	96	55-120			
Dibenz(a,h)anthracene	2850	420	ug/kg	3330	ND	85	25-135			

## TestAmerica Irvine

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Project Manager

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17079 Extracted: 12/17/07</b>										
<b>Matrix Spike Analyzed: 12/17/2007 (7L17079-MS1)</b>					<b>Source: IQL1307-26RE1</b>					
Dibenzofuran	2710	330	ug/kg	3330	ND	81	50-120			
Di-n-butyl phthalate	3090	330	ug/kg	3330	ND	93	50-125			
1,3-Dichlorobenzene	2400	330	ug/kg	3330	ND	72	35-120			
1,4-Dichlorobenzene	2460	330	ug/kg	3330	ND	74	35-120			
1,2-Dichlorobenzene	2530	330	ug/kg	3330	ND	76	40-120			
3,3-Dichlorobenzidine	2140	830	ug/kg	3330	ND	64	20-130			
2,4-Dichlorophenol	3220	330	ug/kg	3330	ND	97	45-120			
Diethyl phthalate	3120	330	ug/kg	3330	ND	94	50-125			
2,4-Dimethylphenol	3190	330	ug/kg	3330	ND	96	30-120			
Dimethyl phthalate	2990	330	ug/kg	3330	ND	90	45-125			
4,6-Dinitro-2-methylphenol	2820	420	ug/kg	3330	ND	85	35-120			
2,4-Dinitrophenol	3020	660	ug/kg	3330	ND	91	20-120			
2,4-Dinitrotoluene	3220	330	ug/kg	3330	ND	97	50-125			
2,6-Dinitrotoluene	3070	330	ug/kg	3330	ND	92	50-125			
Di-n-octyl phthalate	3910	330	ug/kg	3330	ND	117	50-135			
Fluoranthene	2810	330	ug/kg	3330	ND	84	45-120			
Fluorene	2770	330	ug/kg	3330	ND	83	50-120			
Hexachlorobenzene	2720	330	ug/kg	3330	ND	82	50-120			
Hexachlorobutadiene	2540	330	ug/kg	3330	ND	76	40-120			
Hexachlorocyclopentadiene	3290	830	ug/kg	3330	ND	99	20-125			
Hexachloroethane	2230	330	ug/kg	3330	ND	67	35-120			
Indeno(1,2,3-cd)pyrene	3080	330	ug/kg	3330	ND	92	20-130			
Isophorone	2550	330	ug/kg	3330	ND	77	40-120			
2-Methylnaphthalene	2870	330	ug/kg	3330	ND	86	40-120			
2-Methylphenol	3100	330	ug/kg	3330	ND	93	40-120			
4-Methylphenol	3210	330	ug/kg	3330	ND	96	45-120			
Naphthalene	2710	330	ug/kg	3330	ND	81	40-120			
2-Nitroaniline	2700	330	ug/kg	3330	ND	81	45-120			
3-Nitroaniline	2660	330	ug/kg	3330	ND	80	30-120			
4-Nitroaniline	3180	830	ug/kg	3330	ND	95	40-125			
Nitrobenzene	2450	330	ug/kg	3330	ND	73	40-120			
2-Nitrophenol	2990	330	ug/kg	3330	ND	90	40-120			
4-Nitrophenol	3690	830	ug/kg	3330	ND	111	35-125			
N-Nitrosodiphenylamine	2920	330	ug/kg	3330	ND	87	45-125			
N-Nitroso-di-n-propylamine	2450	250	ug/kg	3330	ND	73	35-120			

## TestAmerica Irvine

Lisa Reightley For Debby Wilson  
Project Manager

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

## SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
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**Batch: 7L17079 Extracted: 12/17/07**

## Matrix Spike Analyzed: 12/17/2007 (7L17079-MS1)

## Source: IQL1307-26RE1

Pentachlorophenol	3300	830	ug/kg	3330	ND	99	30-120			
Phenanthrene	2830	330	ug/kg	3330	ND	85	50-120			
Phenol	3220	330	ug/kg	3330	ND	97	40-120			
Pyrene	3650	330	ug/kg	3330	ND	110	40-125			
1,2,4-Trichlorobenzene	2580	330	ug/kg	3330	ND	78	40-120			
2,4,5-Trichlorophenol	2960	330	ug/kg	3330	ND	89	45-120			
2,4,6-Trichlorophenol	3060	330	ug/kg	3330	ND	92	45-120			
1,2-Diphenylhydrazine/Azobenzene	2660	330	ug/kg	3330	ND	80	50-125			
Surrogate: 2-Fluorophenol	6200		ug/kg	6670		93	25-120			
Surrogate: Phenol-d6	6000		ug/kg	6670		90	35-120			
Surrogate: 2,4,6-Tribromophenol	6540		ug/kg	6670		98	35-125			
Surrogate: Nitrobenzene-d5	2340		ug/kg	3330		70	30-120			
Surrogate: 2-Fluorobiphenyl	2710		ug/kg	3330		81	35-120			
Surrogate: Terphenyl-d14	3520		ug/kg	3330		106	40-135			

## Matrix Spike Dup Analyzed: 12/17/2007 (7L17079-MSD1)

## Source: IQL1307-26RE1

Acenaphthene	2810	330	ug/kg	3330	ND	84	45-120	1	25	
Acenaphthylene	3340	330	ug/kg	3330	ND	100	45-120	2	20	
Aniline	2400	420	ug/kg	3330	ND	72	25-120	0	30	
Anthracene	2930	330	ug/kg	3330	ND	88	55-120	0	25	
Benzidine	ND	660	ug/kg	3330	ND		20-120		30	M2
Benzoic acid	2860	830	ug/kg	3330	ND	86	20-120	7	30	
Benzo(a)anthracene	3200	330	ug/kg	3330	ND	96	50-120	2	25	
Benzo(b)fluoranthene	2940	330	ug/kg	3330	ND	88	45-125	2	30	
Benzo(k)fluoranthene	3000	330	ug/kg	3330	ND	90	45-125	0	30	
Benzo(g,h,i)perylene	3230	330	ug/kg	3330	ND	97	25-130	0	30	
Benzo(a)pyrene	3130	330	ug/kg	3330	ND	94	45-125	1	25	
Benzyl alcohol	3580	330	ug/kg	3330	ND	107	20-120	4	30	
Bis(2-chloroethoxy)methane	2570	330	ug/kg	3330	ND	77	45-120	2	25	
Bis(2-chloroethyl)ether	2410	170	ug/kg	3330	ND	72	35-110	5	25	
Bis(2-chloroisopropyl)ether	2740	330	ug/kg	3330	ND	82	40-120	3	25	
Bis(2-ethylhexyl)phthalate	3880	330	ug/kg	3330	ND	117	45-130	1	25	
4-Bromophenyl phenyl ether	2850	330	ug/kg	3330	ND	86	45-120	0	20	
Butyl benzyl phthalate	3760	330	ug/kg	3330	ND	113	45-125	0	25	
4-Chloroaniline	1940	330	ug/kg	3330	ND	58	20-120	2	30	
2-Chloronaphthalene	2900	330	ug/kg	3330	ND	87	45-120	2	20	

## TestAmerica Irvine

Lisa Reightley For Debby Wilson  
Project Manager

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17079 Extracted: 12/17/07</b>										
<b>Matrix Spike Dup Analyzed: 12/17/2007 (7L17079-MSD1)</b>					<b>Source: IQL1307-26RE1</b>					
4-Chloro-3-methylphenol	3230	330	ug/kg	3330	ND	97	50-125	2	25	
2-Chlorophenol	2820	330	ug/kg	3330	ND	85	40-120	4	20	
4-Chlorophenyl phenyl ether	2730	330	ug/kg	3330	ND	82	50-120	2	25	
Chrysene	3160	330	ug/kg	3330	ND	95	55-120	1	25	
Dibenz(a,h)anthracene	2840	420	ug/kg	3330	ND	85	25-135	0	30	
Dibenzofuran	2720	330	ug/kg	3330	ND	82	50-120	0	25	
Di-n-butyl phthalate	3040	330	ug/kg	3330	ND	91	50-125	2	25	
1,3-Dichlorobenzene	2330	330	ug/kg	3330	ND	70	35-120	3	25	
1,4-Dichlorobenzene	2360	330	ug/kg	3330	ND	71	35-120	4	25	
1,2-Dichlorobenzene	2460	330	ug/kg	3330	ND	74	40-120	3	25	
3,3-Dichlorobenzidine	2190	830	ug/kg	3330	ND	66	20-130	2	25	
2,4-Dichlorophenol	3160	330	ug/kg	3330	ND	95	45-120	2	25	
Diethyl phthalate	3130	330	ug/kg	3330	ND	94	50-125	0	25	
2,4-Dimethylphenol	3190	330	ug/kg	3330	ND	96	30-120	0	25	
Dimethyl phthalate	3040	330	ug/kg	3330	ND	91	45-125	2	25	
4,6-Dinitro-2-methylphenol	2810	420	ug/kg	3330	ND	84	35-120	0	25	
2,4-Dinitrophenol	2940	660	ug/kg	3330	ND	88	20-120	3	25	
2,4-Dinitrotoluene	3170	330	ug/kg	3330	ND	95	50-125	2	25	
2,6-Dinitrotoluene	3100	330	ug/kg	3330	ND	93	50-125	1	20	
Di-n-octyl phthalate	3960	330	ug/kg	3330	ND	119	50-135	1	25	
Fluoranthene	2790	330	ug/kg	3330	ND	84	45-120	1	25	
Fluorene	2830	330	ug/kg	3330	ND	85	50-120	2	25	
Hexachlorobenzene	2740	330	ug/kg	3330	ND	82	50-120	1	25	
Hexachlorobutadiene	2530	330	ug/kg	3330	ND	76	40-120	1	25	
Hexachlorocyclopentadiene	3370	830	ug/kg	3330	ND	101	20-125	2	30	
Hexachloroethane	2200	330	ug/kg	3330	ND	66	35-120	2	30	
Indeno(1,2,3-cd)pyrene	3050	330	ug/kg	3330	ND	91	20-130	1	30	
Isophorone	2510	330	ug/kg	3330	ND	75	40-120	2	25	
2-Methylnaphthalene	2810	330	ug/kg	3330	ND	84	40-120	2	20	
2-Methylphenol	3020	330	ug/kg	3330	ND	91	40-120	2	25	
4-Methylphenol	3080	330	ug/kg	3330	ND	92	45-120	4	25	
Naphthalene	2650	330	ug/kg	3330	ND	79	40-120	2	25	
2-Nitroaniline	2800	330	ug/kg	3330	ND	84	45-120	4	25	
3-Nitroaniline	2690	330	ug/kg	3330	ND	81	30-120	1	25	
4-Nitroaniline	3140	830	ug/kg	3330	ND	94	40-125	1	30	

#### TestAmerica Irvine

Lisa Reightley For Debby Wilson  
Project Manager

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Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3545/8270C)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L17079 Extracted: 12/17/07</b>										
<b>Matrix Spike Dup Analyzed: 12/17/2007 (7L17079-MSD1)</b>					<b>Source: IQL1307-26RE1</b>					
Nitrobenzene	2440	330	ug/kg	3330	ND	73	40-120	0	25	
2-Nitrophenol	2910	330	ug/kg	3330	ND	87	40-120	3	25	
4-Nitrophenol	3610	830	ug/kg	3330	ND	108	35-125	2	30	
N-Nitrosodiphenylamine	2890	330	ug/kg	3330	ND	87	45-125	1	25	
N-Nitroso-di-n-propylamine	2340	250	ug/kg	3330	ND	70	35-120	4	25	
Pentachlorophenol	3300	830	ug/kg	3330	ND	99	30-120	0	25	
Phenanthrene	2840	330	ug/kg	3330	ND	85	50-120	0	25	
Phenol	3130	330	ug/kg	3330	ND	94	40-120	3	25	
Pyrene	3580	330	ug/kg	3330	ND	107	40-125	2	30	
1,2,4-Trichlorobenzene	2570	330	ug/kg	3330	ND	77	40-120	0	25	
2,4,5-Trichlorophenol	3050	330	ug/kg	3330	ND	92	45-120	3	20	
2,4,6-Trichlorophenol	3070	330	ug/kg	3330	ND	92	45-120	0	25	
1,2-Diphenylhydrazine/Azobenzene	2670	330	ug/kg	3330	ND	80	50-125	1	25	
Surrogate: 2-Fluorophenol	5960		ug/kg	6670		89	25-120			
Surrogate: Phenol-d6	5730		ug/kg	6670		86	35-120			
Surrogate: 2,4,6-Tribromophenol	6500		ug/kg	6670		98	35-125			
Surrogate: Nitrobenzene-d5	2300		ug/kg	3330		69	30-120			
Surrogate: 2-Fluorobiphenyl	2770		ug/kg	3330		83	35-120			
Surrogate: Terphenyl-d14	3470		ug/kg	3330		104	40-135			

TestAmerica Irvine

Lisa Reightley For Debby Wilson  
Project Manager

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IQL1584 <Page 29 of 35>

Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L14060 Extracted: 12/14/07</b>										
<b>Blank Analyzed: 12/15/2007 (7L14060-BLK1)</b>										
Antimony	ND	10	mg/kg							
Arsenic	ND	2.0	mg/kg							
Barium	ND	1.0	mg/kg							
Beryllium	ND	0.50	mg/kg							
Cadmium	ND	0.50	mg/kg							
Chromium	ND	1.0	mg/kg							
Cobalt	ND	1.0	mg/kg							
Copper	ND	2.0	mg/kg							
Lead	ND	2.0	mg/kg							
Molybdenum	ND	2.0	mg/kg							
Nickel	ND	2.0	mg/kg							
Selenium	ND	2.0	mg/kg							
Silver	ND	1.0	mg/kg							
Thallium	ND	10	mg/kg							
Vanadium	ND	1.0	mg/kg							
Zinc	ND	5.0	mg/kg							

### LCS Analyzed: 12/15/2007 (7L14060-BS1)

Antimony	52.8	10	mg/kg	50.0		106	80-120
Arsenic	53.7	2.0	mg/kg	50.0		107	80-120
Barium	54.7	1.0	mg/kg	50.0		109	80-120
Beryllium	52.5	0.50	mg/kg	50.0		105	80-120
Cadmium	53.3	0.50	mg/kg	50.0		107	80-120
Chromium	53.0	1.0	mg/kg	50.0		106	80-120
Cobalt	53.3	1.0	mg/kg	50.0		107	80-120
Copper	54.1	2.0	mg/kg	50.0		108	80-120
Lead	54.0	2.0	mg/kg	50.0		108	80-120
Molybdenum	50.8	2.0	mg/kg	50.0		102	80-120
Nickel	53.3	2.0	mg/kg	50.0		107	80-120
Selenium	50.9	2.0	mg/kg	50.0		102	80-120
Silver	26.2	1.0	mg/kg	25.0		105	80-120
Thallium	51.5	10	mg/kg	50.0		103	80-120
Vanadium	53.7	1.0	mg/kg	50.0		107	80-120
Zinc	52.6	5.0	mg/kg	50.0		105	80-120

### TestAmerica Irvine

Lisa Reightley For Debby Wilson  
Project Manager

*The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.*

**IQL1584 <Page 30 of 35>**



Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

## METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L14060 Extracted: 12/14/07</b>										
<b>Matrix Spike Analyzed: 12/17/2007 (7L14060-MS1)</b>					<b>Source: IQL1509-01</b>					
Antimony	28.2	20	mg/kg	50.0	ND	56	75-125			M2
Arsenic	52.0	4.0	mg/kg	50.0	5.01	94	75-125			
Barium	902	2.0	mg/kg	50.0	763	279	75-125			MHA
Beryllium	48.6	1.0	mg/kg	50.0	ND	97	75-125			
Cadmium	47.4	1.0	mg/kg	50.0	ND	95	75-125			
Chromium	57.1	2.0	mg/kg	50.0	6.61	101	75-125			
Cobalt	57.3	2.0	mg/kg	50.0	9.45	96	75-125			
Copper	61.1	4.0	mg/kg	50.0	8.38	105	75-125			
Lead	55.7	4.0	mg/kg	50.0	7.24	97	75-125			
Molybdenum	44.3	4.0	mg/kg	50.0	1.72	85	75-125			
Nickel	56.3	4.0	mg/kg	50.0	6.95	99	75-125			
Selenium	45.1	4.0	mg/kg	50.0	ND	90	75-125			
Silver	24.2	2.0	mg/kg	25.0	ND	97	75-125			
Thallium	48.2	20	mg/kg	50.0	ND	96	75-125			
Vanadium	108	2.0	mg/kg	50.0	43.3	130	75-125			M1
Zinc	111	10	mg/kg	50.0	62.5	98	75-125			
<b>Matrix Spike Dup Analyzed: 12/17/2007 (7L14060-MSD1)</b>					<b>Source: IQL1509-01</b>					
Antimony	27.7	20	mg/kg	50.0	ND	55	75-125	2	20	M2
Arsenic	49.8	4.0	mg/kg	50.0	5.01	89	75-125	4	20	
Barium	805	2.0	mg/kg	50.0	763	85	75-125	11	20	MHA
Beryllium	47.2	1.0	mg/kg	50.0	ND	94	75-125	3	20	
Cadmium	45.6	1.0	mg/kg	50.0	ND	91	75-125	4	20	
Chromium	53.6	2.0	mg/kg	50.0	6.61	94	75-125	6	20	
Cobalt	56.1	2.0	mg/kg	50.0	9.45	93	75-125	2	20	
Copper	59.4	4.0	mg/kg	50.0	8.38	102	75-125	3	20	
Lead	53.9	4.0	mg/kg	50.0	7.24	93	75-125	3	20	
Molybdenum	42.4	4.0	mg/kg	50.0	1.72	81	75-125	4	20	
Nickel	53.7	4.0	mg/kg	50.0	6.95	93	75-125	5	20	
Selenium	41.4	4.0	mg/kg	50.0	ND	83	75-125	9	20	
Silver	23.4	2.0	mg/kg	25.0	ND	93	75-125	4	20	
Thallium	45.8	20	mg/kg	50.0	ND	92	75-125	5	20	
Vanadium	103	2.0	mg/kg	50.0	43.3	120	75-125	5	20	
Zinc	110	10	mg/kg	50.0	62.5	95	75-125	1	20	

### TestAmerica Irvine

Lisa Reightley For Debby Wilson  
Project Manager

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IQL1584 <Page 31 of 35>

Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L14076 Extracted: 12/14/07</b>										
<b>Blank Analyzed: 12/14/2007 (7L14076-BLK1)</b>										
Mercury	ND	0.020	mg/kg							
<b>LCS Analyzed: 12/14/2007 (7L14076-BS1)</b>										
Mercury	0.906	0.020	mg/kg	0.800		113	85-120			
<b>Matrix Spike Analyzed: 12/14/2007 (7L14076-MS1)</b>										
Mercury	0.896	0.020	mg/kg	0.800	ND	112	65-135			
<b>Matrix Spike Dup Analyzed: 12/14/2007 (7L14076-MSD1)</b>										
Mercury	0.918	0.020	mg/kg	0.800	ND	115	65-135	2	20	

**TestAmerica Irvine**

Lisa Reightley For Debby Wilson  
Project Manager

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**IQL1584 <Page 32 of 35>**

Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 7L14126 Extracted: 12/14/07</b>									
<b>Duplicate Analyzed: 12/14/2007 (7L14126-DUP1)</b>									
pH	8.51	0.100	pH Units		8.47		1	5	
					<b>Source: IQL1582-01</b>				

**TestAmerica Irvine**

Lisa Reightley For Debby Wilson  
Project Manager

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**IQL1584** <Page 33 of 35>

Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## DATA QUALIFIERS AND DEFINITIONS

<b>C</b>	Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
<b>L6</b>	Per the EPA methods, benzidine is known to be subject to oxidative losses during solvent concentration.
<b>M1</b>	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
<b>M2</b>	The MS and/or MSD were below the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
<b>MHA</b>	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
<b>RL2</b>	Reporting limit raised due to high concentrations of hydrocarbons.
<b>Z3</b>	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
<b>ND</b>	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
<b>RPD</b>	Relative Percent Difference

## ADDITIONAL COMMENTS

### For 1,2-Diphenylhydrazine:

The result for 1,2-Diphenylhydrazine is based upon the reading of its breakdown product, Azobenzene.

**TestAmerica Irvine**

Lisa Reightley For Debby Wilson  
Project Manager

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**IQL1584 <Page 34 of 35>**

Chevron Refinery, El Segundo-R&R  
324 W. El Segundo Boulevard  
El Segundo, CA 90245  
Attention: Alan Crosby

Project ID: Service Order Number 4620585  
RMR#5254 Haz CC#9803  
Report Number: IQL1584

Sampled: 12/11/07  
Received: 12/13/07

## Certification Summary

### TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 418.1	Solid	X	X
EPA 6010B	Solid	X	X
EPA 7471A	Solid	X	X
EPA 8260B	Solid	X	X
EPA 8270C	Solid	X	X
EPA 9045C	Solid	X	X

*Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at [www.testamericainc.com](http://www.testamericainc.com)*

### Subcontracted Laboratories

#### Aquatic Testing Laboratories-SUB California Cert #1775

4350 Transport Street, Unit 107 - Ventura, CA 93003

Analysis Performed: Bioassay-Haz. Waste

Samples: IQL1584-01

### TestAmerica Irvine

Lisa Reightley For Debby Wilson  
Project Manager

*The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.*

**IQL1584 <Page 35 of 35>**

10/15/84


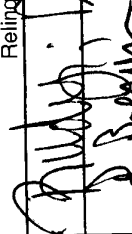



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# Recovery and Recycle Chain of Custody Form

HAZCO: 9803

Chevron, 324 W. El Segundo Blvd., El Segundo, CA 90245

Telephone: (310) 615-5000

Analytical Report To				Sample Information					Turnaround Time				
Alan Crosby 310-615-5091 Collector Information Collected By: Rudy Duarte Extension: 5724 Job No: S6588 Service Order No. 4620585				Test Name or Number	Date	Time	Preserve Code	Container Code	No.	1 day	5-day	Below	
<b>Preservation Code</b> 1 None 2 Cool to 4°C 3 Cool to 4°C, sulfuric acid to pH<2 4 Cool to 4°C, nitric acid to pH<2 5 Cool to 4°C, copper sulfate and sulfuric acid to pH<2 6 Cool to 4°C, sodium hydroxide to pH>12 7 Cool to 4°C, zinc acetate and sodium hydroxide to pH>9 8 Cool to 4°C, hydrochloric acid to pH12, no headspace 9 Other - specify				RMR 5254	12/11/2007	6:00 PM	2	J	1		X		
				RMR 5254	12/11/2007	6:00 PM	2	J	1		X		
				RMR 5254	12/11/2007	6:00 PM	2	J	1		X		
				RMR									
				RMR									
				RMR									
				RMR									
<b>Container Code</b> GA/GC Glass: amber or clear bottle P Polyethylene V Vial J Jar O Other - specify				<b>Sample Allocation</b> Receiving Facility: Test America 17461 Derian Ave., Suite 100 Irvine, CA 92606 (949) 261-1022 Receivers Comments:									
Relinquished By (Signature) 				Date		Time		Received By (Signature)		Date		Time	
				12/13/07		9 AM		D. Benway		12/13/07		9 AM	
				12/13/07		10 AM		D. Benway		12/13/07		10 AM	
				12/13/07		12:30 PM		D. Benway		12/13/07		12:30 PM	
				12/13/07		1:05 PM		D. Benway		12/13/07		1:05 PM	

Sampling Conditions / Remarks: Scan the accompanying Analytical Test Request sheet(s) into the data base with the Chain of Custody.

5 days

See Remarks

4-0/2-0  
C.S.

## Analytical Test Request

(Must be accompanied by Chain of Custody)

**RMR5254**

Haz CC #:

9803

AFIS

26383650-01

F&R Job **S6588**

Date Sampled 12/11/2007

Rec'd @ Cert. Lab

Sequence **.02**

to Chev Lab 12/13/2007

Analyzed

<u>Material Type</u> Other Solids	<u>Physical State</u> Solid	<u>Suspected Hazards</u> Flash:      pH:
<u>Description</u> Coke	<u>Components</u> Coke debris	Benzene:
<u>Source of Sample</u> From drum #D-10105 at 9 res		<u>Other Hazards:</u>

Analysis	Method	Add'l Note
% Moisture	SM2540B	
» Aquatic Toxicity	Title 22	
BTEX	EPA 8020	
BTEX	8021	
» CAM TTLC Metals	EPA 6010	
Complete QA/QC Raw Data		
Cyanides, Tot. (Listed Sludge)	EPA 335	
Flashpoint	EPA 1010	
PCBs	EPA 8080	
PFLT	SW846 9095	
pH	EPA 150.1	
pH (Aqueous Waste > 20% H2O)	SW846 9040A	
» pH (Solids/Sludges < 20% H2O)	SW846 9045B	
RCRA Subpart CC	EPA 25D	
RCRA TCLP Metals		
Reactive Cyanide	SW846 7.3.3.2	
Reactive Sulfide	SW846 7.3.4.2	
» Semi-Volatile Compounds	EPA 8270	
TCLP Nickel (Listed Sludge)	EPA 7520	
TOC (HWSTF Liquids)	EPA 9060	
TPH	8015M	
TPH (Water Board for soils)	EPA 8015(M)	
» TRPH	EPA 418.1	
» Volatile Organic Compounds	EPA 8260	

### Notes

1. Perform the STLC analysis for CAM Metals if Total constituent value is >10 x STLC limit.
2. Perform the TCLP analysis for RCRA metals, Semi-volatile and Volatile Organics if Total constituent value is >20 x TCLP limit.
3. TPH reported as ranges C4-C12, C13-C22, and ≥C23.

### Comments

- Duarte R 12/11/2007: Sample pulled tonight from D-10105 in area 51.

Requested by (R&R):

Duarte R

Reviewed by (Lab):



# LABORATORY REPORT



**Aquatic  
Testing  
Laboratories**

*"dedicated to providing quality aquatic toxicity testing"*

**Date:** December 19, 2007

**Client:** TestAmerica, Irvine  
17461 Derian Ave., Suite 100  
Irvine, CA 92614  
Attn: Debby Wilson

4350 Transport Street, Unit 107  
Ventura, CA 93003  
(805) 650-0546 FAX (805) 650-0756  
CA DOHS ELAP Cert. No.: 1775

**Laboratory No.:** A-07121408-001  
**Sample ID.:** IQL1584-01

**Sample Control:** The samples were received by ATL in a chilled state, with the chain of custody record attached.

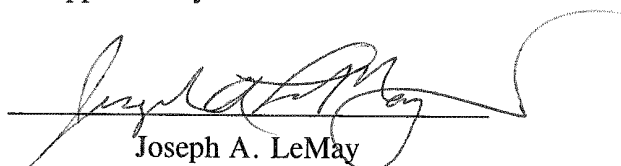
Date Sampled: 12/11/07  
Date Received: 12/14/07  
Date Tested: 12/15/07 to 12/19/07

**Sample Analysis:** The following analyses were performed on your sample:  
  
CCR Title 22 Fathead Minnow Hazardous Waste Screen Bioassay (Polisini & Miller 1988).  
  
Attached are the test data generated from the analysis of your sample.

## Result Summary:

<u>Sample ID.</u>	<u>Results</u>
IQL1584-01	PASSED (LC50 > 750 mg/l)

**Quality Control:** Reviewed and approved by:

  
Joseph A. LeMay  
Laboratory Director

# FATHEAD MINNOW HAZARDOUS WASTE SCREEN BIOASSAY



Lab No.: A07121408-001

Client/ID: TA JAL1584-01C

## TEST SUMMARY

Species: *Pimephales promelas*.

Fish length (mm): av: 39; min: 37; max: 41.

Fish weight (gm): av: 0.83; min: 0.68; max: 0.98.

Test chamber volume: 10 liters.

Temperature: 20 +/- 2°C.

Aeration: Single bubble through 30 bore tube.

Number of replicates: 2.

Dilution water: Soft reconstituted water (40 - 48 mg/l CaCO<sub>3</sub>).

QA/QC Batch No.: RT-071130.

Source: Thomas Fish.

Regulations: CCR Title 22.

Test Protocol: California F&G/DHS 1988.

Endpoints: Survival at 96 hrs.

Test type: Static.

Feeding: None.

Number of fish per chamber: 10.

Photoperiod: 16/8 hrs light/dark.

## TEST DATA

	INITIAL			24 Hr				48 Hr				72 Hr				96 Hr			
Date/Time:	12-15-07 1030			12-16-07 1030				12-17-07 1030				12-18-07 1102				12-19-07 1130			
Analyst:	Rm			Z				Z				Rm				Rm			
	°C	DO	pH	°C	DO	pH	# D	°C	DO	pH	# D	°C	DO	pH	# D	°C	DO	pH	# D
Control A	19.8	8.9	7.1	20.4	7.8	7.1	0	20.7	7.7	7.1	0	20.7	8.5	7.1	0	20.9	8.0	7.1	0
Control B	19.7	8.9	7.1	20.5	8.4	7.1	0	20.7	8.3	7.0	0	20.6	8.4	7.1	0	20.8	8.4	7.1	0
400 mg/l A	19.4	8.9	7.8	20.4	7.7	7.1	0	20.7	7.4	7.0	0	20.9	8.2	7.1	0	20.9	8.0	6.9	0
400 mg/l B	19.3	9.0	7.9	20.8	8.4	7.1	0	20.9	8.1	7.0	0	20.9	8.3	7.1	0	20.9	7.9	6.9	0
750 mg/l A	19.2	8.9	8.2	20.4	8.0	7.1	0	20.6	7.6	7.0	0	20.8	7.5	7.1	0	20.8	7.4	6.9	0
750 mg/l B	19.1	9.0	8.2	20.6	7.5	7.2	0	20.7	8.0	7.0	0	20.8	7.9	7.1	0	20.8	7.6	6.9	0
Comments: Extraction method: Mechanical shaking <input checked="" type="checkbox"/> . None (aqueous solution) <input type="checkbox"/> . Dissolved Oxygen (DO) readings in mg/l O <sub>2</sub> .																			

	CONTROL		HIGH CONCENTRATION		Total Number Dead	
	Alkalinity	Hardness	Alkalinity	Hardness	Control	
Initial	30 mg/l CaCO <sub>3</sub>	48 mg/l CaCO <sub>3</sub>	35 mg/l CaCO <sub>3</sub>	53 mg/l CaCO <sub>3</sub>	400 mg/l	0 /20
Final	29 mg/l CaCO <sub>3</sub>	49 mg/l CaCO <sub>3</sub>	44 mg/l CaCO <sub>3</sub>	66 mg/l CaCO <sub>3</sub>	750 mg/l	0 /20

## RESULTS

✓ (one)	Result	Description
X	PASSED	LC50 > 750 mg/l (<40% dead in 750 mg/l conc.)
—	FAILED	≥40% dead in 750 mg/l (definitive test recommended)
—	FAILED	LC50 < 400 mg/l (>60% dead in 400 mg/l conc.)

## SUBCONTRACT ORDER

TestAmerica Irvine

IQL1584

SENDING LABORATORY:

TestAmerica Irvine  
17461 Derian Avenue, Suite 100  
Irvine, CA 92614  
Phone: (949) 261-1022  
Fax: (949) 260-3297  
Project Manager: Debby Wilson

RECEIVING LABORATORY:

Aquatic Testing Laboratories-SUB  
4350 Transport Street, Unit 107  
Ventura, CA 93003  
Phone : (805) 650-0546  
Fax: (805) 650-0756  
Project Location: California  
Receipt Temperature: 7 °C

Ice: (Y) / N

Analysis	Units	Due	Expires	Comments
<b>Sample ID: IQL1584-01</b>				
Bioassay-Haz. Waste	Solid	N/A	12/20/07 12/18/07 18:00	sub to Aquatic testing - Ventura
Containers Supplied:				
8 oz Jar (C)				

Released By

Date/Time

Received By

Date/Time

Released By

Date/Time

Received By

Date/Time

Page 1 of 1

ED\_001593\_00016594

**To:** Pacheco-Mendez, Marisol[Marisol.Pacheco-Mendez@valero.com]  
**From:** Lin, Sharon  
**Sent:** Mon 4/24/2017 2:02:26 AM  
**Subject:** RE: Valero Benicia-EOL-10 Data From April

Receipt confirmed.

sharon

**From:** Pacheco-Mendez, Marisol [mailto:Marisol.Pacheco-Mendez@valero.com]  
**Sent:** Saturday, April 22, 2017 1:12 PM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Cc:** Ronan, Kimberly A <Kim.Ronan@valero.com>; Cuffel, Donald <Don.Cuffel@valero.com>; Bourbon, Elizabeth <Elizabeth.Bourbon@valero.com>; Bluntzer, Megan <Megan.Bluntzer@valero.com>; Suhami, Iren <Iren.Suhami@valero.com>  
**Subject:** Valero Benicia-EOL-10 Data From April

Hello Sharon,

Pursuant to item 63 of the Consent Agreement and Final Order negotiated between EPA and Valero (RCRA EPA ID No. CAD063001770, TRI ID No. 94510XXNCS3400E), please see attached for end of line (EOL) sampling point EOL-10 data collected on April 6, 7 and 8, 2017. This data was received from the contractor laboratory on April 21, 2017.

The self-diversion was a result of the storm event at the time of these results.

Please confirm receipt of this email.

Please contact me if you have any questions.

Regards,

***Marisol Pacheco-Mendez***

***Valero Benicia Refinery***

***Staff Environmental Engineer***

***707-745-7573***

**Chevron El Segundo Refinery  
EPA Records/Documents Request  
(April 18-20, 2017)**

**General Procedure**

**Pursuant to EPA's authority set forth in Section 3007(a) of RCRA, 42 U.S.C. 6927(a), facilities subject to RCRA may be required to furnish information necessary for EPA to administer the Act.** During the compliance investigation at the Chevron El Segundo Refinery (Chevron), EPA/DTSC inspectors will be reviewing records kept for your facility. In order to expedite this portion of the investigation, the agencies are providing Chevron notification of the records that will likely be reviewed on-site. For most documents, the agencies will review the records on-site and request copies, if needed. In certain cases, document copies will be requested for later view at EPA. During the investigation, the agencies will work with Chevron to develop a schedule to review these documents. If any of the documents requested can be claimed as Confidential Business Information per 40 CFR Part 2, Subpart B, please mark the documents in accordance with Attachment 1.

The documentation/information requested below is not a complete list of the information EPA/DTSC may request during and following the inspection.

**Part 1 - Records/Document Requested**

1. Provide descriptions for all process areas including the following information:
  - a. Simplified process flow diagrams (8 copies)
  - b. Pollution control equipment
  - c. Waste streams produced
2. Management organization chart (including environmental department) (1 copy)
3. Site map of the facility (8 copies)
4. Provide a list of solid/hazardous waste/oil bearing materials generated on-site by process area, equipment that generates it, and how it is handled (2 copies<sup>1</sup>)
5. Provide all variances and/or exemption from the RCRA requirements along with any related correspondence (2 copies)
6. Provide any current delistings for hazardous wastes generated on-site and related correspondence (2 copies)
7. NPDES discharge permit and associated permit application (most recent version)

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<sup>1</sup> On copy for EPA and a copy to DTSC

- including any separate storm water permit (2 copies)
8. Any wastewater pretreatment permit agreements (2 copies)
  9. Plans and/or written descriptions of the sewer system (including by-pass capability), monitoring stations, and outfall locations. Include process, sanitary, and stormwater sewers. (2 copies)
  10. Description of all wastewater treatment systems, including schematic diagrams and any process changes (8 copies)
  11. Provide a current status of RCRA permitted hazardous waste management units on-site; schedule for closure. (2 copies)
  12. Documentation of off-site waste shipments for the past 3 years, including manifests and associated land disposal restriction (LDR) paperwork, bills of lading, recycling certifications (contracts), shipping records, etc. (1 copy each for review on-site)
  13. Exception reports for any manifests not received back from the designated facility (last 3 years). (1 copy for review on-site)
  14. Latest biennial report (1 copy for review on-site). Include documentation that verifies the submission date.
  15. Plot plan showing locations of all less than 90-days accumulation areas and tanks. Also identify locations of all waste generation points and satellite accumulation areas (2 copies).

**Part 2 – Documents likely to be requested by EPA inspectors (schedule to be determined)**

1. Solid waste and hazardous waste, recyclable excluded materials determinations and any waste analysis data used to support these determinations and/or company SOP if any.
2. Documentation of any reportable spills and/or releases of hazardous substances at the facility for the last 3 years.
3. All records for responses to any reportable spills in the last 5 years, including types and quantities of materials spilled, locations, analytical data, and response measures taken.
4. Records of all hazardous waste shipped from an off-site facility for on-site treatment, recycling, or disposal.
5. Waste analysis plan for treating, storing, or disposing of any hazardous wastes.
6. Training plan, and employee training records for hazardous waste handlers, including job



- titles and descriptions and name of each employee.
7. Contingency plan and documentation for any incidents that required implementation of the plan.
  8. Inspection schedules, logs/summaries for all container storage areas and <90 day accumulation areas (last 3 years).
  9. Groundwater analyses and reports for any surface impoundment(s), landfill, or land treatment facilities on-site.
  10. For each of the facility ponds:
    - a. Regulatory status, including any claimed exemptions
    - b. Description of pond construction
    - c. Description of the dimensions
    - d. Description of pond maintenance activities including scope and frequency of inspections and repair
    - e. Analysis of materials discharged into each pond
    - f. Description of pond operations, such as aeration, skimming, cleaning, water cannons, dredging.
    - g. Analysis of any sludges or wastewater contained in the pond
  11. List of units, and supporting documentation, that are subject to applicable RCRA air emission standards.
  12. Documentation of ongoing corrective action activities including monitoring reports and workplans.
  13. Any enforcement actions currently in effect or issued in the last 5 years (including Notices of Violation (NOVs), consent decrees, orders, and agreements), and all related correspondence and deliverables including monitoring reports under the agreements.

## **Attachment 1**

### **Confidential Information<sup>2</sup>**

The information requested herein must be provided even though CHEVRON may contend that it includes confidential information or trade secrets. CHEVRON may assert a confidentiality claim covering part or all of the information requested, pursuant to Section 3007(b) of RCRA, 42 U.S.C. § 6927(b), and 40 C.F. R. § 2.203(b).

If you make a claim of confidentiality for any of the information CHEVRON provides to EPA, you must prove that claim. For each document or response you claim confidential, you must separately address the following points:

- i. clearly identify the portions of the information alleged to be entitled to confidential treatment;
- ii. the period of time for which confidential treatment is desired (e.g., until a certain date, until the occurrence of a specific event, or permanently);
- iii. measures taken by you to guard against the undesired disclosure of the information to others;
- iv. the extent to which the information has been disclosed to others, and the precautions taken in connection therewith;
- v. pertinent confidentiality determinations, if any, by EPA or other federal agencies, and a copy of any such determinations or reference to them, if available; and
- vi. whether you assert that disclosure of the information would likely result in substantial harmful effects on your business' competitive position, and if so, what those harmful effects would be, why they should be viewed as substantial, and an explanation of the causal relationship between disclosure and such harmful effects.

To make a confidentiality claim, please stamp, or type, confidential on all confidential responses and any related confidential documents. Confidential portions of otherwise nonconfidential documents should be clearly identified. You should indicate the date, if any, after which the information need no longer be treated as confidential.

All confidentiality claims are subject to EPA verification. It is important that you satisfactorily show that you have taken reasonable measures to protect the confidentiality of the information and that you intend to continue to do so, and that it is not and has not been obtainable by legitimate means without your consent. If no such claim accompanies the information when it is received by EPA, then it may be made available to the public by EPA without further notice to you.

If the EPA determines that the information so designated meets the criteria set forth in 40 C.F.R. § 2.208, the information will be disclosed only to the extent, and by means of the procedures specified in 40 C.F.R. Part 2, Subpart B..

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<sup>2</sup> DTSC has its CBI information claim/management requirements that are separate from EPA's.

**To:** Soria, Maria@DTSC[Maria.Soria@dtsc.ca.gov]; Peebler, Diana@DTSC[Diana.Peebler@dtsc.ca.gov]; teng.yang@dtsc.ca.gov[teng.yang@dtsc.ca.gov]  
**Cc:** McDaniel, Doug[McDaniel.Doug@epa.gov]; Schofield, John[Schofield.John@epa.gov]  
**From:** Lin, Sharon  
**Sent:** Fri 12/16/2016 10:25:44 PM  
**Subject:** NOV - Shell Martinez Refinery RCRA Inspection  
[2016-12-16 SMR NOV Final.pdf](#)

Hi, Maria, Diana, and Andy:

Please see attached NOV. It is going out today. We will share the inspection report with DTSC after the facility makes its CBI evaluation. Thanks.

Sharon



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX

75 Hawthorne Street  
San Francisco, CA 94105

DEC 16 2016

Mr. Gordon Johnson  
Environmental Affairs Manager  
Shell Oil Products US –Martinez Refinery  
3485 Pacheco Blvd.  
Martinez, CA 94553

**RE: Notice of Violation**  
**Shell Oil Products US, Martinez Refinery**  
**EPA Identification Number: CAD 009164021**

Dear Mr. Johnson:

U.S. Environmental Protection Agency (EPA) Region 9 Enforcement Division inspectors conducted a Compliance Evaluation Inspection (CEI) at the Shell Martinez Refinery (SMR) located in Martinez, California on March 23-27 and March 30, 2015. The purpose of the inspection was to evaluate SMR's compliance with the Resource Conservation and Recovery Act's (RCRA) hazardous waste management requirements, 42 U.S.C. §§ 6921-6939, and the implementing regulations; and the California Code of Regulations (CCR), Title 22, Division 4.5 and the California Health and Safety Code (HSC), Division 20; and specific Hazardous Waste Facility Permit (Permit) provisions. Under Section 3006 of RCRA, 42 U.S.C. § 6926, violations of the State of California's authorized RCRA hazardous waste management program are federally enforceable.

A copy of the RCRA CEI report is enclosed for your information and response. The CEI report describes conditions at the facility at the time of inspection, and identifies areas of noncompliance with RCRA regulations and the State of California's authorized program under RCRA Subtitle C. In addition, the report identifies other areas of concern at SMR. Please note that omissions in the CEI report shall not be construed as a determination of compliance with any other applicable regulation.

Pursuant to Section 3008 of RCRA, 42 U.S.C. § 6928, and EPA's Civil Monetary Penalty Inflation Adjustment Rule, 81 Fed. Reg. 43091 (July 1, 2016), violations of RCRA hazardous waste management requirements may be punishable by civil penalties of up to \$40,799 per day for each day such violation continues. EPA requests that you submit documentation that you have corrected each of the potential violations identified in the enclosed RCRA CEI report within **thirty (30) calendar days** of your receipt of this letter. Documentation of corrective actions taken by SMR to address the potential violations identified in the CEI report may consist of, among other things, photographs, manifests, and revised records.

**Confidential Business Information:** EPA regulations governing the confidentiality of business information are set forth in 40 CFR Part 2, Subpart B. EPA routinely provides copies of investigation reports to state agencies, and upon request, to the public. Such releases are handled according to the Freedom of Information Act regulations (40 CFR Part 2). If SMR believes this letter contains information entitled to treatment as confidential business information, please assert a confidentiality claim in accordance with 40 CFR § 2.203(b) within fourteen (14) calendar days from the date of receipt of this letter. Business confidentiality includes the concept of trade secrecy and other related concepts. Your claim must specifically identify the information covered by the claim and should be sent to EPA by certified mail. EPA will construe the failure to furnish a confidentiality claim within fourteen (14) calendar days from the date of SMR's receipt of this letter as a waiver of that claim and information may be made available to the public by the EPA without further notice. See 40 CFR § 2.203(a)(2).

Additionally, if SMR believes that any information in SMR's response to this letter is entitled to treatment as confidential business information, please identify any such information and assert a confidentiality claim in accordance with 40 CFR § 2.203(b) in SMR's response. EPA will construe the failure to make a confidentiality claim when the response is submitted to EPA as a waiver of that claim and information may be made available to the public by the EPA without further notice.

If EPA determines that any information over which SMR asserts a claim meets the criteria set forth in 40 CFR § 2.208, the information will be disclosed only to the extent, and by means of the procedures specified in 40 CFR Part 2, Subpart B.

If you have any questions regarding this letter and the enclosed inspection report, please contact Sharon Lin of my staff at (415) 972-3446.

Sincerely,



Douglas K. McDaniel  
Chief, Waste and Chemical Section  
Enforcement Division

Enclosure

cc: Maria Soria, California Department of Toxic Substances Control (w/o enclosure)  
Diana Peebler, California Department of Toxic Substances Control (w/o enclosure)

**To:** gordon.johnson@shell.com[gordon.johnson@shell.com];  
michael.monson@shell.com[michael.monson@shell.com]  
**From:** Lin, Sharon  
**Sent:** Wed 2/22/2017 9:00:32 PM  
**Subject:** FW: Shell Martinez Notice of Violation

Hi, Gordon and Mike,

Just wanted to check in on the status of your response. Thanks.

sharon

**From:** Lin, Sharon  
**Sent:** Tuesday, January 03, 2017 7:10 AM  
**To:** 'michael.monson@shell.com' <michael.monson@shell.com>; Schofield, John  
<Schofield.John@epa.gov>; McDaniel, Doug <McDaniel.Doug@epa.gov>  
**Cc:** gordon.johnson@shell.com  
**Subject:** RE: Shell Martinez Notice of Violation

Hi, Mike,

The 30 day extension is granted. We expect to receive your response by February 17. Thanks.

sharon

**From:** [michael.monson@shell.com](mailto:michael.monson@shell.com) [<mailto:michael.monson@shell.com>]  
**Sent:** Friday, December 30, 2016 3:18 PM  
**To:** Lin, Sharon <[Lin.Sharon@epa.gov](mailto:Lin.Sharon@epa.gov)>; Schofield, John <[Schofield.John@epa.gov](mailto:Schofield.John@epa.gov)>  
**Cc:** [gordon.johnson@shell.com](mailto:gordon.johnson@shell.com); [michael.monson@shell.com](mailto:michael.monson@shell.com)  
**Subject:** Shell Martinez Notice of Violation

Sharon & John,

Unfortunately, I don't have an e-mail address for Douglas McDaniel, so please forward as necessary. Due to the date of the arrival of the report, with key personnel being on vacation the last 2 weeks of December as well as the first week of January, we would like to request an extension to the 30 day limit mentioned in the report.

I will be out of the office next week, so if there is a more formalized process to request and receive an extension, please reply to Gordon Johnson.

Thanks,

**Michael Monson**

Staff Engineer – Environmental (Waste)

Martinez Refinery, 3485 Pacheco Blvd, Martinez CA 94553

**Phone:** 925-313-5516

**Email:** [michael.monson@shell.com](mailto:michael.monson@shell.com)

**Internet:** <http://www.shelloilproductsus.com/>

**To:** Ripp, Thomas[Ripp.Tom@epa.gov]  
**From:** Lin, Sharon  
**Sent:** Fri 2/17/2017 9:01:59 PM  
**Subject:** RE: Missed conversation with Lin, Sharon

I am working on the inspection report for Torrance. We have a couple of refinery cases at various stage of the enforcement process. Hope they will let us continue this work since California really wants us to help build their capacity (NEIC is coming out for a refinery training inspection with the State in April).

Sharon

**From:** Ripp, Thomas  
**Sent:** Friday, February 17, 2017 11:59 AM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Subject:** Re: Missed conversation with Lin, Sharon

I didn't see the article but there have been e-mails and all hands meetings saying there has been no official words from anyone on the transition teams. Of course some of us staffers and a couple of retirees have been speculating for some time (even before the election) the OECA was ripe for reorganization with OC being pulled into OCE or possibly going back to program offices. Personally, I'm just waiting for them to cut EPA's budget, offer early out/buyout opportunities and hopefully OC doesn't prohibit engineers from being eligible for a buyout.

What's the latest on your refinery work?

Tom Ripp  
Pesticides, Waste and Toxics Branch  
202-564-7003 (Tu & W) 6:45 - 4:15  
301-391-6198 (M alternate location) 9:00 - 2:30  
Do not work Thursday or Friday

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**From:** Lin, Sharon



**Sent:** Friday, February 17, 2017 2:06 PM  
**To:** Lin, Sharon; Ripp, Thomas  
**Subject:** Missed conversation with Lin, Sharon

Lin, Sharon [11:06 AM]:

hi, tom,

any word on OECA reorganization?

saw the article in Inside EPA

**To:** Yang, Teng@DTSC[Teng.Yang@dtsc.ca.gov]  
**Cc:** Ranney, April@DTSC[April.Ranney@dtsc.ca.gov]  
**From:** Lin, Sharon  
**Sent:** Tue 4/11/2017 10:26:28 PM  
**Subject:** RE: field inspection start 8:30am at chevron - is that ok?

Thanks. I checked with brian too. he is ok with the time.

sharon

**From:** Yang, Teng@DTSC [mailto:Teng.Yang@dtsc.ca.gov]  
**Sent:** Tuesday, April 11, 2017 3:22 PM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Cc:** Ranney, April@DTSC <April.Ranney@dtsc.ca.gov>  
**Subject:** RE: field inspection start 8:30am at chevron - is that ok?

I can only speak for April and I but that's okay with us. We'll be staying at a hotel near the refinery.

-Andy

**From:** Lin, Sharon [mailto:Lin.Sharon@epa.gov]  
**Sent:** Tuesday, April 11, 2017 3:10 PM  
**To:** Yang, Teng@DTSC  
**Subject:** field inspection start 8:30am at chevron - is that ok?

Hi, andy and april,

I plan to start the inspection at 8:30am on Tuesday. Will this work for you and april? Are you folks staying near el Segundo? Please let me know. Thanks.

sharon

**To:** Wu, Brian@DTSC[Brian.Wu@dtsc.ca.gov]  
**From:** Lin, Sharon  
**Sent:** Tue 4/11/2017 10:03:39 PM  
**Subject:** RE: chevron contact

Thanks!

**From:** Wu, Brian@DTSC [mailto:Brian.Wu@dtsc.ca.gov]  
**Sent:** Tuesday, April 11, 2017 2:26 PM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Subject:** RE: chevron contact

Hi Sharon, Ms. Susan Worley is my point of contact from Chevron Refinery. I can get her detail information to you on Thursday. Followings are the three environmental managers from Chevron:

-

Robert G. Orinion, Environmental Section Head, HES Division

Susan B. Worley, Manager, Health, Environmental and Safety

John M. Doyle, Hazardous Waste & Water Supervisor, HES Division

Thanks,

Brian

**From:** Lin, Sharon [mailto:Lin.Sharon@epa.gov]  
**Sent:** Tuesday, April 11, 2017 1:30 PM  
**To:** Wu, Brian@DTSC <Brian.Wu@dtsc.ca.gov>  
**Subject:** chevron contact

Hi, Brian, who is the point of contact at chevron for your inspection? I would like his (her) contact information. I plan to send chevron our inspection notification this Friday. Thanks.

sharon

**From:** Wu, Brian@DTSC [<mailto:Brian.Wu@dtsc.ca.gov>]  
**Sent:** Tuesday, April 11, 2017 12:33 PM  
**To:** Lin, Sharon <[Lin.Sharon@epa.gov](mailto:Lin.Sharon@epa.gov)>  
**Subject:** RE: EPA/DTSC Refinery RCRA Inspection Training Agenda

Hi Sharon, any time is good for me. However, I have an appointment on Tuesday afternoon, and could not be re-scheduled. Therefore, I will skip the Tuesday afternoon's training. Thanks,

Brian

**From:** Lin, Sharon [<mailto:Lin.Sharon@epa.gov>]  
**Sent:** Tuesday, April 11, 2017 11:44 AM  
**To:** Wu, Brian@DTSC <[Brian.Wu@dtsc.ca.gov](mailto:Brian.Wu@dtsc.ca.gov)>  
**Subject:** RE: EPA/DTSC Refinery RCRA Inspection Training Agenda

Hi, brian, do you have a time preference when we start the inspection at chevron Tuesday morning? I know you have a commute from diamond bar. Please advise. Thanks.

sharon

**From:** Wu, Brian@DTSC [<mailto:Brian.Wu@dtsc.ca.gov>]  
**Sent:** Tuesday, April 11, 2017 11:39 AM  
**To:** Lin, Sharon <[Lin.Sharon@epa.gov](mailto:Lin.Sharon@epa.gov)>  
**Subject:** RE: EPA/DTSC Refinery RCRA Inspection Training Agenda

Thank you Sharon! See you then!

Brian

**From:** Lin, Sharon [<mailto:Lin.Sharon@epa.gov>]  
**Sent:** Tuesday, April 11, 2017 11:22 AM  
**To:** Forman, Glenn@DTSC <[Glenn.Forman@dtsc.ca.gov](mailto:Glenn.Forman@dtsc.ca.gov)>; Yang, Teng@DTSC <[Teng.Yang@dtsc.ca.gov](mailto:Teng.Yang@dtsc.ca.gov)>; Wu, Brian@DTSC <[Brian.Wu@dtsc.ca.gov](mailto:Brian.Wu@dtsc.ca.gov)>; Kou, Roberto@DTSC <[Roberto.Kou@dtsc.ca.gov](mailto:Roberto.Kou@dtsc.ca.gov)>  
**Cc:** Vega, Jackie <[Vega.Jackie@epa.gov](mailto:Vega.Jackie@epa.gov)>; Sakow, Rick <[Sakow.Rick@epa.gov](mailto:Sakow.Rick@epa.gov)>; Soria, Maria@DTSC <[Maria.Soria@dtsc.ca.gov](mailto:Maria.Soria@dtsc.ca.gov)>; Schofield, John <[Schofield.John@epa.gov](mailto:Schofield.John@epa.gov)>; McDaniel, Doug <[McDaniel.Doug@epa.gov](mailto:McDaniel.Doug@epa.gov)>; Lynch, Philip@DTSC <[Philip.Lynch@dtsc.ca.gov](mailto:Philip.Lynch@dtsc.ca.gov)>  
**Subject:** EPA/DTSC Refinery RCRA Inspection Training Agenda

EPA team is looking forward to seeing you in Chatsworth on Monday.

Sharon

**To:** Wu, Brian@DTSC[Brian.Wu@dtsc.ca.gov]  
**From:** Lin, Sharon  
**Sent:** Tue 4/11/2017 8:29:31 PM  
**Subject:** chevron contact

Hi, Brian, who is the point of contact at chevron for your inspection? I would like his (her) contact information. I plan to send chevron our inspection notification this Friday. Thanks.

sharon

**From:** Wu, Brian@DTSC [mailto:Brian.Wu@dtsc.ca.gov]  
**Sent:** Tuesday, April 11, 2017 12:33 PM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Subject:** RE: EPA/DTSC Refinery RCRA Inspection Training Agenda

Hi Sharon, any time is good for me. However, I have an appointment on Tuesday afternoon, and could not be re-scheduled. Therefore, I will skip the Tuesday afternoon's training. Thanks,

Brian

**From:** Lin, Sharon [mailto:Lin.Sharon@epa.gov]  
**Sent:** Tuesday, April 11, 2017 11:44 AM  
**To:** Wu, Brian@DTSC <Brian.Wu@dtsc.ca.gov>  
**Subject:** RE: EPA/DTSC Refinery RCRA Inspection Training Agenda

Hi, brian, do you have a time preference when we start the inspection at chevron Tuesday morning? I know you have a commute from diamond bar. Please advise. Thanks.

sharon

**From:** Wu, Brian@DTSC [<mailto:Brian.Wu@dtsc.ca.gov>]  
**Sent:** Tuesday, April 11, 2017 11:39 AM  
**To:** Lin, Sharon <[Lin.Sharon@epa.gov](mailto:Lin.Sharon@epa.gov)>  
**Subject:** RE: EPA/DTSC Refinery RCRA Inspection Training Agenda

Thank you Sharon! See you then!

Brian

**From:** Lin, Sharon [<mailto:Lin.Sharon@epa.gov>]  
**Sent:** Tuesday, April 11, 2017 11:22 AM  
**To:** Forman, Glenn@DTSC <[Glenn.Forman@dtsc.ca.gov](mailto:Glenn.Forman@dtsc.ca.gov)>; Yang, Teng@DTSC <[Teng.Yang@dtsc.ca.gov](mailto:Teng.Yang@dtsc.ca.gov)>; Wu, Brian@DTSC <[Brian.Wu@dtsc.ca.gov](mailto:Brian.Wu@dtsc.ca.gov)>; Kou, Roberto@DTSC <[Roberto.Kou@dtsc.ca.gov](mailto:Roberto.Kou@dtsc.ca.gov)>  
**Cc:** Vega, Jackie <[Vega.Jackie@epa.gov](mailto:Vega.Jackie@epa.gov)>; Sakow, Rick <[Sakow.Rick@epa.gov](mailto:Sakow.Rick@epa.gov)>; Soria, Maria@DTSC <[Maria.Soria@dtsc.ca.gov](mailto:Maria.Soria@dtsc.ca.gov)>; Schofield, John <[Schofield.John@epa.gov](mailto:Schofield.John@epa.gov)>; McDaniel, Doug <[McDaniel.Doug@epa.gov](mailto:McDaniel.Doug@epa.gov)>; Lynch, Philip@DTSC <[Philip.Lynch@dtsc.ca.gov](mailto:Philip.Lynch@dtsc.ca.gov)>  
**Subject:** EPA/DTSC Refinery RCRA Inspection Training Agenda

EPA team is looking forward to seeing you in Chatsworth on Monday.

Sharon



**To:** Wu, Brian@DTSC[Brian.Wu@dtsc.ca.gov]  
**From:** Lin, Sharon  
**Sent:** Tue 4/11/2017 6:44:11 PM  
**Subject:** RE: EPA/DTSC Refinery RCRA Inspection Training Agenda

Hi, brian, do you have a time preference when we start the inspection at chevron Tuesday morning? I know you have a commute from diamond bar. Please advise. Thanks.

sharon

**From:** Wu, Brian@DTSC [mailto:Brian.Wu@dtsc.ca.gov]  
**Sent:** Tuesday, April 11, 2017 11:39 AM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Subject:** RE: EPA/DTSC Refinery RCRA Inspection Training Agenda

Thank you Sharon! See you then!

Brian

**From:** Lin, Sharon [mailto:Lin.Sharon@epa.gov]  
**Sent:** Tuesday, April 11, 2017 11:22 AM  
**To:** Forman, Glenn@DTSC <Glenn.Forman@dtsc.ca.gov>; Yang, Teng@DTSC <Teng.Yang@dtsc.ca.gov>; Wu, Brian@DTSC <Brian.Wu@dtsc.ca.gov>; Kou, Roberto@DTSC <Roberto.Kou@dtsc.ca.gov>  
**Cc:** Vega, Jackie <Vega.Jackie@epa.gov>; Sakow, Rick <Sakow.Rick@epa.gov>; Soria, Maria@DTSC <Maria.Soria@dtsc.ca.gov>; Schofield, John <Schofield.John@epa.gov>; McDaniel, Doug <McDaniel.Doug@epa.gov>; Lynch, Philip@DTSC <Philip.Lynch@dtsc.ca.gov>  
**Subject:** EPA/DTSC Refinery RCRA Inspection Training Agenda

EPA team is looking forward to seeing you in Chatsworth on Monday.

Sharon

**To:** michael.monson@shell.com[michael.monson@shell.com]  
**From:** Lin, Sharon  
**Sent:** Mon 12/12/2016 11:15:56 PM  
**Subject:** RE: Request for Additional Information

Hi, Mike,

I am getting ready to send the inspection report to you soon. Is Natalie still in the same position or should I send it to someone else? Please advise. Thanks.

Sharon

**From:** michael.monson@shell.com [mailto:michael.monson@shell.com]  
**Sent:** Tuesday, November 15, 2016 3:39 PM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Cc:** michael.monson@shell.com  
**Subject:** RE: Request for Additional Information

Sharon,

Per our earlier agreement, the ETP-1 Feed sample results for 2016 are attached. The benzene concentrations were 0.05 mg/L and 0.09 mg/L.

**From:** Lin, Sharon [mailto:Lin.Sharon@epa.gov]  
**Sent:** Thursday, April 07, 2016 4:04 PM  
**To:** Monson, Michael J SOPUS-DMW/323  
**Subject:** RE: Request for Additional Information

Thanks!

**From:** michael.monson@shell.com [mailto:michael.monson@shell.com]

**Sent:** Thursday, April 07, 2016 3:40 PM  
**To:** Lin, Sharon <[Lin.Sharon@epa.gov](mailto:Lin.Sharon@epa.gov)>  
**Cc:** [michael.monson@shell.com](mailto:michael.monson@shell.com)  
**Subject:** RE: Request for Additional Information

Sharon,

Hope you had a nice vacation.

See attached analytical data for 2003 as requested. Samples are semi-annual.

**Michael Monson**

Staff Engineer - Environmental

Martinez Refinery, 3485 Pacheco Blvd, Martinez CA 94553

**Phone:** 925-313-5516

**Email:** [michael.monson@shell.com](mailto:michael.monson@shell.com)

**Internet:** <http://www.shelloilproductsus.com/>

**From:** Lin, Sharon [<mailto:Lin.Sharon@epa.gov>]  
**Sent:** Wednesday, March 23, 2016 1:54 PM  
**To:** Monson, Michael J SOPUS-DMW/323  
**Subject:** RE: Request for Additional Information

Ok. thanks. I saw the sampling location in Gordon's memo. Thanks!

Sharon

**From:** michael.monson@shell.com [mailto:michael.monson@shell.com]  
**Sent:** Wednesday, March 23, 2016 1:20 PM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Subject:** RE: Request for Additional Information

Data from 2003 is stored off-site. I will need to request it.

**Michael Monson**

Staff Engineer - Environmental

Martinez Refinery, 3485 Pacheco Blvd, Martinez CA 94553

**Phone:** 925-313-5516

**Email:** michael.monson@shell.com

**Internet:** <http://www.shelloilproductsus.com/>

**From:** Lin, Sharon [mailto:Lin.Sharon@epa.gov]  
**Sent:** Wednesday, March 23, 2016 1:10 PM  
**To:** Monson, Michael J SOPUS-DMW/323  
**Subject:** RE: Request for Additional Information

Hi, Mike,

Could I get the 2003 ETP-1 data too? Also, please advise the frequency of the sampling for the ETP-1 feed and the location of the sampling point. Thanks.

Sharon

**From:** michael.monson@shell.com [mailto:michael.monson@shell.com]  
**Sent:** Wednesday, March 23, 2016 11:26 AM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>

**Cc:** [michael.monson@shell.com](mailto:michael.monson@shell.com)

**Subject:** Request for Additional Information

Sharon,

The hard copy will be mailed later today, but I'm sending you electronic copies as well. Attached are the cover letter, analytical reports, and the BWON reports (without appendices A & B due to size constraints).

Please let me know if you have any further questions,

**Michael Monson**

Staff Engineer - Environmental

Martinez Refinery, 3485 Pacheco Blvd, Martinez CA 94553

**Phone:** 925-313-5516

**Email:** [michael.monson@shell.com](mailto:michael.monson@shell.com)

**Internet:** <http://www.shelloilproductsus.com/>

**To:** michael.monson@shell.com[michael.monson@shell.com]  
**From:** Lin, Sharon  
**Sent:** Wed 3/15/2017 4:17:23 PM  
**Subject:** RE: scheduling EPA/Shell RCRA meeting

Hi, Mike,

Thanks. I presume that someone who is familiar with the groundwater/biotreater/WWTP operations at Shell Martinez would be available in case we have questions. I think we worked with Mike Armor last time.

Please see below for directions to our office. Please allow yourselves sometime to get through the security. Please ring me at 415 972 3446 when you are in the lobby. I will come downstairs to receive you. Thanks.

<https://www.epa.gov/aboutepa/visiting-pacific-southwest-region-9-office>

Sharon

**From:** michael.monson@shell.com [mailto:michael.monson@shell.com]  
**Sent:** Wednesday, March 15, 2017 9:10 AM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Subject:** RE: scheduling EPA/Shell RCRA meeting

Sharon,

Gordon Johnson, Steven Overman, John Epperson and I will meet with you at 1 on March 27.

Thanks,

**Michael Monson**

Staff Engineer – Environmental (Waste)

Martinez Refinery, 3485 Pacheco Blvd, Martinez CA 94553

**Phone:** 925-313-5516

**Email:** [michael.monson@shell.com](mailto:michael.monson@shell.com)

**Internet:** <http://www.shelloilproductsus.com/>

**From:** Lin, Sharon [<mailto:Lin.Sharon@epa.gov>]

**Sent:** Friday, March 10, 2017 9:23 AM

**To:** Monson, Michael J SOPUS-DMW/323 <[michael.monson@shell.com](mailto:michael.monson@shell.com)>

**Subject:** RE: scheduling EPA/Shell RCRA meeting

Hi, Mike, would Monday (March 27) 1 pm work for the Shell team? Please let me know. We could do morning too, but Monday mornings are usually pretty hectic.

I also need a list of names of the meeting attendees in advance for the building security.  
Thanks.

sharon

**From:** [michael.monson@shell.com](mailto:michael.monson@shell.com) [<mailto:michael.monson@shell.com>]

**Sent:** Wednesday, March 08, 2017 5:12 PM

**To:** Lin, Sharon <[Lin.Sharon@epa.gov](mailto:Lin.Sharon@epa.gov)>

**Cc:** [michael.monson@shell.com](mailto:michael.monson@shell.com)

**Subject:** RE: scheduling EPA/Shell RCRA meeting

Sharon,



Unfortunately, Gordon Johnson is not available (out of the area) the week of March 20. Is there another time that would work (perhaps the week of 3/27 or 4/3)?

**From:** Lin, Sharon [<mailto:Lin.Sharon@epa.gov>]  
**Sent:** Wednesday, March 08, 2017 9:21 AM  
**To:** Monson, Michael J SOPUS-DMW/323 <[michael.monson@shell.com](mailto:michael.monson@shell.com)>  
**Subject:** scheduling EPA/Shell RCRA meeting

Hi, Mike,

Thanks for Shell's response to EPA's inspection report. We are available to meet with the Shell team on 3/22 (morning or afternoon) or 3/24 morning. We prefer this to be a technical meeting and an opportunity for the Shell team to present and discuss salient information in your response letter. Joel Jones who is our manager and was also present at the inspection, John Schofield, and I plan to attend this meeting.

We are located in downtown San Francisco (75 Hawthorne Street), accessible by BART (Montgomery station). I presume a 2-3 hour time would suffice? Please advise your availability. Thanks.

Sharon

**To:** Ward, Scott@DTSC[Scott.Ward@dtsc.ca.gov]  
**From:** Lin, Sharon  
**Sent:** Fri 6/2/2017 5:45:29 PM  
**Subject:** RE: DTSC contact person - Shell Martinez Refinery  
[Final SMR Inspection Report with Signatures.pdf](#)  
[Appendix I SMR Inspection Report.pdf](#)

**From:** Ward, Scott@DTSC [mailto:Scott.Ward@dtsc.ca.gov]  
**Sent:** Friday, June 02, 2017 10:28 AM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Cc:** Koch, Lori@DTSC <Lori.Koch@dtsc.ca.gov>; Largent, Jonathan@DTSC <Jonathan.Largent@dtsc.ca.gov>  
**Subject:** DTSC contact person - Shell Martinez Refinery

Hi Sharon,

This message is to inform you of personnel change at DTSC pertaining to the Shell Martinez Refinery. I have taken on responsibility for hazardous waste permitting activities for the remaining permitted units at the refinery and will serve as DTSC's staff contact person. I would like to give you a call in the coming weeks for general discussion and coordination.

Best regards,

Scott

Scott Ward

Department of Toxic Substances Control

Hazardous Waste Management

700 Heinz Avenue, Suite 200

Berkeley, CA 94710

[scott.ward@dtsc.ca.gov](mailto:scott.ward@dtsc.ca.gov)

(510) 540-3914

**Appendix I**  
**Shell Martinez Refinery**  
**ETP-1 Biotreater Delayed Closure Decision**  
**Documents**  
**&**  
**2005 Annual Report of Noncompliance –**  
**Hazardous Waste Facility Permit Shell Martinez**  
**Refinery**



## Department of Toxic Substances Control

---

Edwin F. Lowry, Director  
700 Heinz Ave, Suite 200  
Berkeley, California 94710



Winston H. Hickox  
Secretary for  
Environmental  
Protection

Gray Davis  
Governor

August 21, 2003

Mr. John Lazorik  
Environmental Engineer  
Shell Oil Products US, Martinez Refinery  
P.O. Box 711  
Martinez, CA 94553-0071

**APPROVAL OF DELAY OF CLOSURE OF BIOTREATER, MARTINEZ REFINING  
COMPANY, A DIVISION OF EQUILON ENTERPRISES, LLC, MARTINEZ,  
CALIFORNIA, EPA ID No. CA 009164021**

Dear Mr. Lazorik:

The Department of Toxic Substances Control (DTSC) has reviewed your Class 2 Permit Modification requesting a Delay of Closure for Surface Impoundment, Effluent Treatment Pond 1 - Biotreater.

DTSC has determined that your application is technically complete and hereby approves the Delay of Closure of Biotreater. Please note that

1. The ETP-1 Biotreater is permitted to accept non-hazardous wastewaters only.
2. Groundwater monitoring will continue to be managed under the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Order 95-234. The SFBRWQCB is the lead agency for sitewide corrective action in accordance with SB1082. Any changes made to Order 95-234 are subject to review by all interested parties including DTSC, providing the DTSC an opportunity to comment on any proposed changes.
3. "The Groundwater Boundary Control Capture Verification Modeling Report" will continue to be provided to DTSC and SFBRWQCB on an annual basis. This report shall include a section that summarizes the activities that took place during the year as a result of recommendation made in the prior years' report.

Mr. John Lazorik  
August 21, 2003  
Page 2

4. Permittee is no longer required to comply with the hazardous waste inspection, records keeping, and training requirements for this specific Biotreater unit, since it is no longer processing hazardous waste.
5. The closure of this unit in accordance with the approved closure plan in the Part B application will be implemented when the unit ceases to operate.

We have filed a CEQA Notice of Exemption with the Office of Planning and Research. Enclosed is a copy of the Revised Permit.

If you have any questions, please call Waqar Ahmad of my staff at (510) 540-3932.

Sincerely,

Salvatore Ciriello,  
Supervising Hazardous Substances Engineer  
Standardized Permits and Corrective Action Branch

Attachment

cc: Patti Barni  
Statewide Compliance Unit  
Department of Toxic Substances Control  
700 Heinz Ave, Suite 200  
Berkeley, CA 94710

Norman Shopay  
Geological Support Services Unit  
Department of Toxic Substances Control  
700 Heinz Avenue  
Berkeley, CA 94710



## Shell Oil Products US

Martinez Refinery  
PO Box 711  
Martinez, CA 94553-0071

**SUBJECT: Meeting Minutes – Delay of Closure for Surface Impoundment ETP-1 Biotreater, June 5, 2003 (EPA ID No. CAD 009 164 021)**

In Attendance: Dan Glaze (Shell), John Lazorik (Shell), Waqar Ahmad (DTSC), Norman Shopay (DTSC), Alan Friedman (SFBRWQCB), Brent Dyer (Shell Global Solutions), Sanjay Garg (Shell Global Solutions)

The purpose of this meeting was to bring together key staff from DTSC, SFBRWQCB, and Shell to discuss the regulatory and technical aspects of the delay of closure of the ETP-1 Biotreater. An important Shell objective was to demonstrate that the corrective action program currently in place under SFBRWQCB Order 95-234 is sufficient to assure protection of human health and the environment with regard to continued use of the ETP #1 biotreater for treatment of non-hazardous wastewater.

### **Background**

Shell Martinez Refinery (SMR) was required to obtain a RCRA Hazardous Waste Facility Permit for operating the ETP #1 Biotreater due to the likelihood of benzene concentrations above RCRA hazardous waste levels in the Biotreater feedwater. Shortly thereafter, Federal land ban regulations prohibited the treatment of hazardous waste in unlined surface impoundments, in effect, making the RCRA permit for treating hazardous waste unusable. In the early part of 1996, benzene containing process wastestreams were routed to the newly constructed ETP-2 Biotreater tank that is currently permitted under California Permit-By-Rule (PBR) regulations. Although the ETP-1 Biotreater was no longer receiving hazardous waste, its continued use is essential to the refinery operation for meeting NPDES permit limits. As such, SMR submitted a Class 2 Permit Modification to the DTSC in April of 1998 for a delay of closure of the ETP-1 Biotreater surface impoundment.

Following the Delay of Closure submittal, DTSC made several requests for information related to monitoring wells associated with the ETP-1 Biotreater and detection of potential leaks. However, due to the hydrogeologic nature of the area surrounding the Biotreater and the presence of legacy contamination from other potential sources, statistical analyses from monitoring well data cannot be used as a viable indicator of a release from the unit. In recent meetings with DTSC staff, SMR also indicated that the Biotreater is located within the boundaries of the refinery's West Valley groundwater capture zone and is explicitly covered by the facility corrective action program as defined in San Francisco Bay Regional Water Quality Control Board Order WDR 95-234. Since corrective action is already in place, Shell's position was that statistical analyses is not warranted since the purpose of those analyses is to define a corrective action plan. The intent of this recent meeting was to

demonstrate to DTSC and SFBRWQCB staff that the corrective action program currently in place is robust enough to be protective of human health and the environment from any existing or potential groundwater contamination in the area, including a release, however unlikely, from the Biotreater.

### **Overview of the Martinez Refinery and Groundwater Management**

Dan Glaze summarized the evolution of the Martinez Refinery from 1915 to present as new operating units were constructed to meet product demands and new environmental regulations. In the 1980's SFBRWQCB and USEPA required investigations of disposal sites and contamination from historic spills and leaks. Over 600 wells were installed and over 70 site investigations were completed with corrective action in place. Under direction of SFBRWQCB staff, SMR subsequently developed a groundwater basin boundary control strategy based on full capture of groundwater at various downgradient property lines.

Requirements for this basin boundary control to assure ongoing environmentally protective management of refinery groundwater were formalized by the SFBRWQCB under their Order 95-234 issued in December, 1995. As required by Provision 5 of this Order, SMR currently submits annual updates of the corrective action program to the SFBRWQCB and DTSC in an annual "Groundwater Boundary Control Capture Verification Modeling Report". This report describes the effectiveness of the extraction systems and summarizes the continued refinement and enhancement of the boundary control system at the refinery.

### **Capture Zone Modeling**

Participating via videoconference, Brent Dyer and Sanjay Garg of Shell Global Systems (SGS) in Houston, provided a technical presentation of the capture zone modeling that is currently in place at SMR. As stipulated in WDR Order 95-234, detailed three-dimensional numerical groundwater flow modeling and data analyses is performed to verify boundary control capture at all perimeter compliance areas of each of the refinery's four major groundwater basins. The ETP-1 Biotreater falls completely within the demonstrated capture zone of the West Valley Basin.

The groundwater flow and pathline simulation models for all basins are constructed using U.S. Geological Survey's MODFLOW model and the MODPATH model. The widely used Groundwater Modeling System (GMS 3.1, DOD 1998) is used to prepare input files for the abovementioned models and produce graphic output files. Capture zone polygons are developed using particle tracking results and flow vector plots based on simulated groundwater flow.

The groundwater flow modeling simulations are verified by matching measured and calculated groundwater elevations in wells and determining the mean absolute error. Calibration statistics on the calculated and observed groundwater elevations show excellent correlation indicating that the model is predictive of actual conditions. DTSC requested the addition of a correlation coefficient (i.e.  $r^2$ ) for the calculated versus actual groundwater elevation graph. SMR agreed to provide this in subsequent reports.

Particle tracking is used in the groundwater flow model to illustrate the areas influenced by various groundwater extraction systems in each major basin. Several extraction systems



adjacent to the Biotreater draw the groundwater flow direction toward a French drain system ("the ETP subdrain"), away from the property boundary. This and other extraction systems in the West Valley Basin provide 100% capture of all groundwater contaminants surrounding the Biotreater. Results of the annual modeling exercise illustrate the effectiveness of the groundwater capture systems and the need, if any, for additional extraction wells or increased pumping rates of existing wells providing a dynamic and self-improving system.

### **Regulatory Summary/Applicability of Order 95-234 Corrective Action to Biotreater**

John Lazorik followed up with a summary of pertinent regulations located in CCR Title 22 Sections 66264.97 through 66264.100 regarding groundwater monitoring requirements and the corrective action process as well as Section 66264.113 covering elements of regulated unit closure including delay of closure. These applicable regulations strongly suggest that the purpose of statistical analyses on background and downgradient wells is to determine if there is evidence of release from a treatment unit and to assess the nature and extent of release as a basis for developing a corrective action plan. However, corrective action for historic waste units and existing facilities including the ETP-1 Biotreater, has been formally in place since at least 1995 at the Martinez Refinery. Therefore statistical analyses referenced in DTSC regulations are not currently applicable to the ETP-1 Biotreater since a mature corrective action program for this unit is already in place under SFBRWQCB Order 95-234.

Following the technical and regulatory presentation, Shell proposed that DTSC grant the delay of closure and make the appropriate permit modification provided that Shell continue to implement the corrective action program including the submittal of all appropriate reports. Furthermore, Shell believes it is appropriate that groundwater compliance continue to be managed through SFBRWQCB Order 95-234, as the lead agency, and that this Order be referenced in the DTSC permit modification. DTSC and SFBRWQCB staff offered concurrence that the current corrective action program is protective of the environment and is applicable to the Biotreater. Any changes made to Order 95-234 are subject to review by all interested parties providing DTSC the opportunity to comment on any proposed changes.

Shell agreed to continue the current RCRA well monitoring program specified in the Hazardous Waste Facility Permit issued by DTSC with the need for statistical analyses precluded by corrective action already underway. The "Groundwater Boundary Control Capture Verification Modeling Report" will continue to be provided to DTSC and SFBRWQCB on an annual basis. Alan Friedman suggested that the report include a section that summarizes the activities that took place during the year as a result of recommendation made in the prior years' report. All parties agreed that this would clarify what actions have been taken. This section will be included in the March 2004 submittal.

DTSC agreed to make the appropriate permit modifications to allow continued operation of the ETP-1 Biotreater for the treatment of non-hazardous wastes.

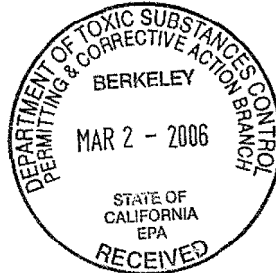
Following the meeting, Dan Glaze and John Lazorik escorted the group for a tour of the effluent treatment plant and RCRA facility including the CO Boilers.

This meeting was a significant milestone in that agreement was reached by all parties to finalize the delay of closure and that the facility corrective action program is embraced by

both the SFBRWQCB and the DTSC as being protective of the environment and applicable to the Biotreater.



## Shell Oil Products US



Martinez Refinery  
PO Box 711  
Martinez, CA 94553-0071  
Tel (925) 313-3000  
Fax (925) 313-3065

Certified Mail

February 28, 2006

Department of Toxic Substances Control  
Attn: Chief, Facility Permitting Branch  
700 Heinz Ave, Suite 300  
Berkeley, CA 94710-2737

**Subject:: 2005 Annual Report of Noncompliance – Hazardous Waste Facility Permit  
Shell Martinez Refinery - EPA ID No. CAD 009164021**

Shell Martinez Refinery (SMR) hereby submits the following Annual Report of Noncompliance for the year 2005 as required by permit condition II.O.7 of SMR's previous Hazardous Waste Facility Permit. Although SMR's current Hazardous Waste Facility Permit does not include this requirement, this reporting requirement is generally described by the California Code of Regulations, Title 22, § 66270.30. A signed certification for the report is also enclosed as required by Title 22, § 66270.11.

If you have any questions regarding the contents of this report, please contact Steven Overman at (925) 313-3281.

Sincerely yours,

Lynley C. Harris, Manager  
Environmental Affairs

Enclosure

✓cc: (with enclosure)  
Waqar Ahmad  
Department of Toxic Substances Control  
700 Heinz Ave, Suite 300  
Berkeley, CA 94710-2737

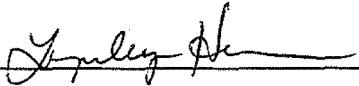
SDO\

**Certification for 2005 Annual Noncompliance Report**

February 28, 2006

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNED



DATE

2/28/06

NAME

Lynley C. Harris

TITLE

Manager, Environmental Affairs

**SHELL OIL PRODUCTS US**  
**SHELL MARTINEZ REFINERY (SMR)**  
**EPA ID NO. CAD 009164021**

**2005 ANNUAL NONCOMPLIANCE REPORT**

Permit condition II.O.7 of the Shell Martinez Refinery's previous Hazardous Waste Facility Permit required that an annual report be submitted to the Department of Toxic Substances Control by February 15<sup>th</sup> for noncompliances other than those reported under permit condition II.K. (24-Hour Reporting). Although the current Hazardous Waste Facility Permit does not include this reporting requirement and schedule, this requirement is generally prescribed by the California Code of Regulations, Title 22, §66270.30. As a result, the Shell Martinez Refinery continues to provide annual non-compliance reports every February. This report covers the period from January 1, 2005 through December 31, 2005.

In November 2004, the Shell Martinez Refinery replaced the obsolete chart recorders with a digital process data monitoring, collection and retention system. A Class I permit modification dated July 30, 2004 provides additional information for this data monitoring system. The Shell Martinez Refinery began using this system for data acquisition on November 30, 2004. On May 11, 2005, DTSC field inspection staff conducted a RCRA compliance audit of the CO Boilers and reviewed the operation of this new data collection system. The DTSC inspectors were satisfied with the data collection, display and retention capabilities of this system. No additional physical alterations, additions or modifications to the permitted units occurred in 2005.

During 2005, there were no fires or explosions involving any of the permitted hazardous waste units. On August 24, 2005, the CO Boilers experienced a spill of flyash to the concrete process unit pad. Shell Martinez Refinery staff provided a written follow-up report for this spill by letter dated August 31, 2005.

Following an internal audit conducted in August 2005, by letter dated August 25, 2005, the Shell Martinez Refinery provided a self-disclosure report to DTSC about the storage of hydrotreating catalyst in three idle lube oil hydrotreating reactors within the Lubes Hydrotreating units LHT-1 and LHT-2. This catalyst was removed from the reactors in September and was shipped off-site in October and November 2005. The storage of catalyst in these units is not covered by the Hazardous Waste Facility Permit.

On December 19 and 20, 2005, Shell Martinez Refinery staff collected a set of samples of ETP-1 Biotreater Feedwater for benzene analysis as part of a semi-annual monitoring program to demonstrate compliance with the Hazardous Waste Facility Permit requirement that ETP-1

Biotreater Feedwater be nonhazardous. To meet this criterion, the benzene result must be less than 500 parts per billion (ppb). Analytical results received in January 2006 indicated the average benzene concentration for this set of samples exceeded this permit limit. On January 23, 2006, Shell Martinez Refinery staff provided a verbal report to Mr. Waqar Ahmad. As a follow-up, another set of samples was collected on January 31 and February 1, 2006. To date, the analytical results are not yet available. Once these results are available, a written follow-up report will be provided to DTSC.

Other information required by 22 CCR 66270.30(I)(6) follows:

Owner Name, Address, Telephone Number

Shell Martinez Refinery  
Marina Vista & Shell Avenue  
P.O. Box 711  
Martinez, CA 94553  
(925) 313-3000

Facility Name, Address, Telephone Number

Shell Martinez Refinery  
Marina Vista and Shell Avenue  
P.O. Box 711  
Martinez, CA 94553  
(925) 313-3000

## Noncompliance Report Summary - CO BOILERS

THE CO BOILERS EXPERIENCED TWO POTENTIAL NONCOMPLIANCES IN 2005. THIS REPRESENTS A 71% REDUCTION FROM 2004 AND A 50% REDUCTION FROM 2003.

### NONCOMPLIANCES REPORTED FOR CURRENT AND PREVIOUS YEARS RECORD

2005	2004	2003	2002	2001
2	7	4	4	2

THESE POTENTIAL NONCOMPLIANCES ARE DOCUMENTED IN THE FIELD ON "NONCOMPLIANCE REPORT FORMS" WHICH ARE FILLED OUT BY THE UNIT OPERATORS. THE UTILITIES OPERATIONS SPECIALIST OR HIS DESIGNATE REVIEWS THE NONCOMPLIANCE REPORTS AS WELL AS ALL OF THE YOKOGAWA ELECTRONIC DATA POINTS WEEKLY TO ASSURE THAT ALL NONCOMPLIANCES HAVE BEEN IDENTIFIED AND CORRECTIVE ACTION HAS BEEN INITIATED.

THE 2005 CO BOILER POTENTIAL NONCOMPLIANCES FALL INTO ONE "SPECIFIC" NONCOMPLIANCE CATEGORY. THE GENERAL COMPLIANCE CATEGORIES AND REFERENCE PERMIT CONDITIONS ARE SHOWN ON THE FOLLOWING PAGE. THE POTENTIAL NONCOMPLIANCES EXPERIENCED IN 2005 WERE CAUSED FROM FAILURE TO DOCUMENT WASTE FEED EVENTS.

Report Summary - CO BOILERS - CONTINUED

TABLE 1

CO BOILERS

2005 NONCOMPLIANCES

NUMBER OF AND SPECIFIC NONCOMPLIANCE CATEGORY		GENERAL COMPLIANCE CATEGORY  FROM DTSC PERMIT	REFERENCE PERMIT CONDITION
2	FAILURE TO DOCUMENT WASTE FEED EVENTS/ DEACTIVATION FOR INSTRUMENT CALIBRATION	RECORDKEEPING	III.E.5.F.
2	TOTAL		



## FAILURE TO DOCUMENT WASTE FEED EVENTS

PERMIT CONDITION III.E.5.F. - "THE PERMITTEE SHALL RECORD IN ITS OPERATING RECORD FOR THIS PERMIT THE DATE AND TIME OF ALL AWFCO'S, INCLUDING THE TRIGGERING PARAMETERS, REASON FOR THE CUT-OFF, AND CORRECTIVE ACTIONS TAKEN. THE PERMITTEE SHALL ALSO RECORD ALL FAILURES OF THE AWFCO SYSTEM TO FUNCTION PROPERLY AND CORRECTIVE ACTIONS TAKEN."

DATE	TIME	COB #	DESCRIPTION
7/26/05	0732	COB 1,2,3	Failure to document "bypass off" at end of 02/CO morning calibration.
7/28/05	1203	COB 1	Failure to document start of biosludge burning in CO Boiler #1.

**NAME AND QUANTITY OF MATERIALS INVOLVED:**

**EXTENT OF INJURIES:**

DAF FLOAT (K048) AND NON-HAZARDOUS BIOSOLIDS

NONE

**ASSESSMENT OF ACTUAL OR POTENTIAL HAZARDS TO THE ENVIRONMENT & HUMAN HEALTH:**

NO ACTUAL OR POTENTIAL HAZARDS RESULTED FROM THESE INCIDENTS. THE INCIDENTS INVOLVED WERE FAILING TO DOCUMENT THE STARTING OF BIOSLUDGE BURNING. ALL AVAILABLE DATA SHOWS THAT THE AUTOMATIC WASTE FEED CUT-OFF SYSTEM WAS OPERATING PROPERLY DURING THESE EVENTS AND THAT NO LIMITS WERE EXCEEDED WITHOUT ACTIVATING THE AUTOMATIC WASTE FEED CUT-OFF TO THE BOILERS.

**CORRECTIVE ACTION:**

IN EACH CASE OF NONCONFORMANCE, THE OPERATIONS SPECIALIST OR SHIFT TEAM LEADER REVIEWED THE INCIDENT WITH THE INVOLVED PERSONNEL. IN EACH INSTANCE, THE IMPORTANCE OF COMPLETE AND ACCURATE DOCUMENTATION WAS EMPHASIZED. THE OVERALL REDUCTION IN THE NUMBER OF NONCOMPLIANCES OVER THE PAST SEVERAL YEARS IS EVIDENCE OF THE OPERATORS' CONTINUED AWARENESS OF AND COMMITMENT TO PROPER DOCUMENTATION.

**To:** Arora, Asha@DTSC[Asha.Arora@dtsc.ca.gov]  
**Cc:** Peebler, Diana@DTSC[Diana.Peebler@dtsc.ca.gov]; Soria, Maria@DTSC[Maria.Soria@dtsc.ca.gov]  
**From:** Lin, Sharon  
**Sent:** Tue 3/14/2017 8:19:58 PM  
**Subject:** RE: review write up for EPA inspection for torrance refinery

Thanks!

**From:** Arora, Asha@DTSC [mailto:Asha.Arora@dtsc.ca.gov]  
**Sent:** Tuesday, March 14, 2017 1:19 PM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Cc:** Peebler, Diana@DTSC <Diana.Peebler@dtsc.ca.gov>; Soria, Maria@DTSC <Maria.Soria@dtsc.ca.gov>  
**Subject:** RE: review write up for EPA inspection for torrance refinery

Hi Sharon,

My comments are in the attached document as track changes.

Thank you

Asha

Asha Arora

Senior Environmental Scientist (Specialist)

Department of Toxic Substances Control

(510) 540-3874

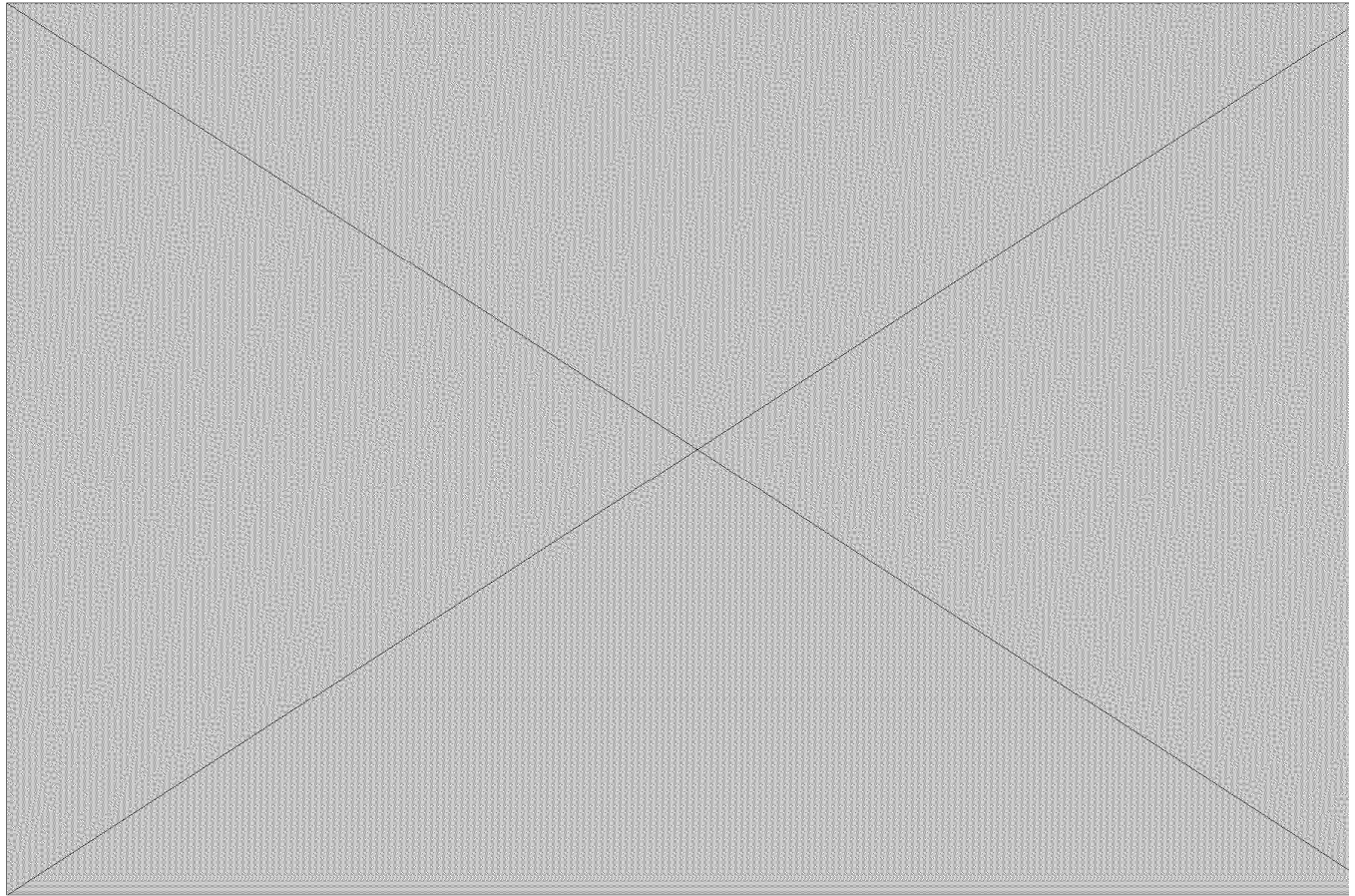
[Asha.Arora@dtsc.ca.gov](mailto:Asha.Arora@dtsc.ca.gov)

**From:** Lin, Sharon [<mailto:Lin.Sharon@epa.gov>]  
**Sent:** Tuesday, March 14, 2017 12:18 PM  
**To:** Arora, Asha@DTSC  
**Cc:** Peebler, Diana@DTSC; Soria, Maria@DTSC  
**Subject:** review write up for EPA inspection for torrance refinery

**ENFORCEMENT CONFIDENTIAL:**

Hi, Asha,

Could you help me review the write up below for the selenium treatment unit at Torrance refinery? This would be a California only violation. I am hoping to complete my inspection report by the end of this month. Thanks so much for your help.



Violation	Regulatory Citation	EPA Notes:
Treatment without a permit	<i>Title 22 §66261.24</i>  <i>HSC §25200.3(a)</i>	<b>Torrance refinery has been performing an unauthorized treatment of hazardous wastes since 2005.</b>  Torrance refinery operates a selenium unit as a “conditionally authorized (CA)” unit under the California Tiered Permitting program. The purpose of the SRU is to reduce the selenium concentration in the process wastewater from the sour water stripper.  Hydrogen peroxide is added to treat the H2S in the

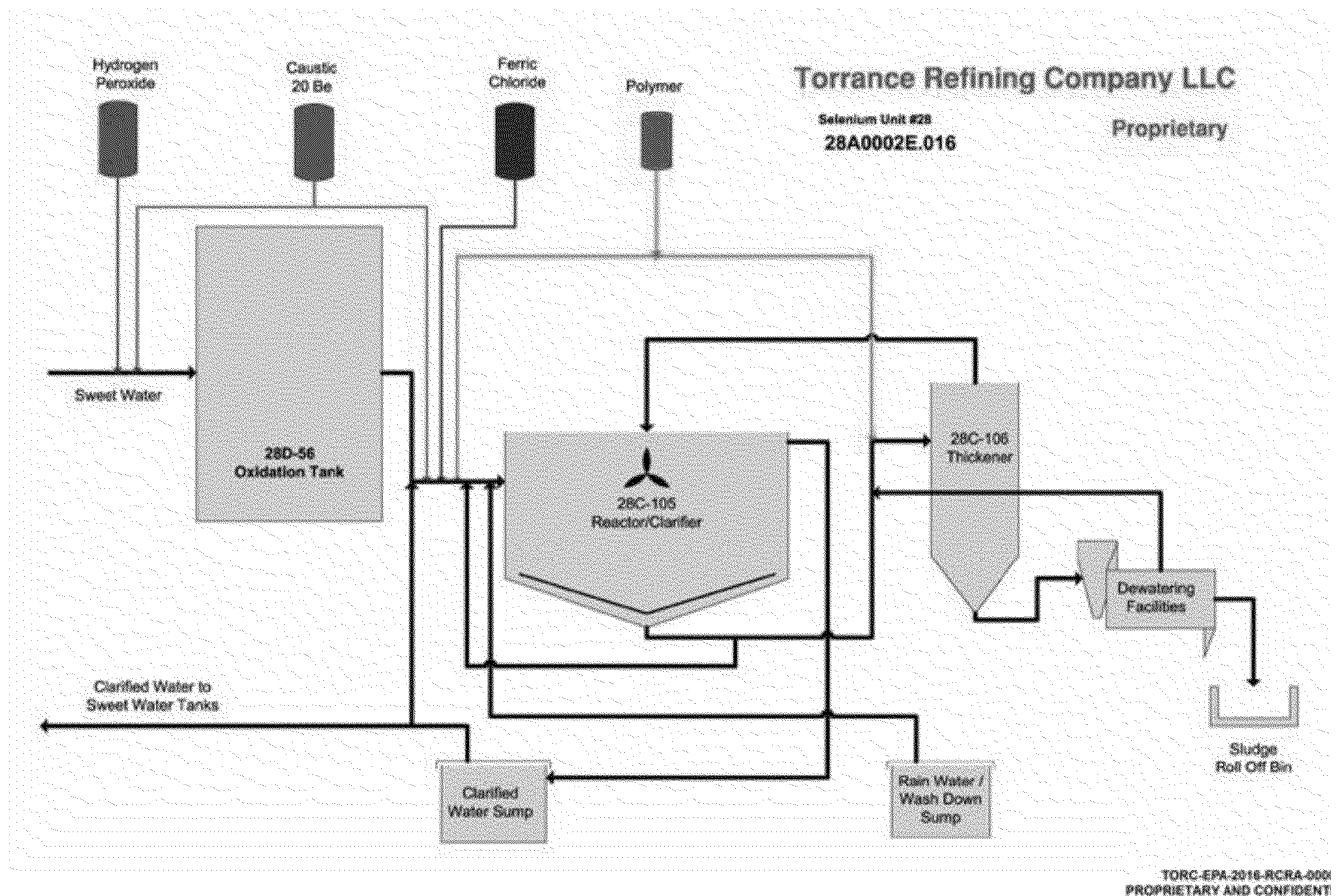
sour water. Then caustic is added to adjust the pH in the water. Then polymer (ferric chloride) is added to precipitate out the selenium metals in the water. The treated water is discharged through the Del Amo outfall which is operated under an industrial wastewater discharge permit issued by the Los Angeles County Sanitation Districts. The solids go through a 2 phase centrifuge managed by PSC, contractor to the Torrance refinery. The solids portion is tested and shipped off site as California only hazardous waste.

The chemical process of oxidation (adding hydrogen peroxide to an aqueous waste) is not one of the treatments authorized for the CA under the HSC §25200.3(a). Therefore, the refinery has been operating an unauthorized/illegal hazardous waste treatment unit.

**To:** Arora, Asha@DTSC[Asha.Arora@dtsc.ca.gov]  
**From:** Lin, Sharon  
**Sent:** Tue 3/14/2017 8:17:24 PM  
**Subject:** Selenium treatment dewatering process

Hi, Asha, the Selenium treatment unit at the Torrance Refinery is a CA unit under the California tiered permitting program. The CA unit only includes the three tanks (oxidation, reactor and thickener). The dewatering facilities which consist of a two phase centrifuge is owned and run by PSC, contractor to the refinery. Would you please let me know the status of their permit to run the operation? Thanks.

sharon



**To:** Forman, Glenn@DTSC[Glenn.Forman@dtsc.ca.gov]  
**From:** Lin, Sharon  
**Sent:** Sun 4/9/2017 1:31:37 AM  
**Subject:** RE: Refinery Training in Chatsworth

We envision the inspection in the field to take place from 18<sup>th</sup> to 21<sup>st</sup>. I think we would like to invite 4 DTSC inspectors to come along in the field. You could potentially alternate them if you would like more folks get the field experience, although continuity would be important for the purpose of piecing together potential violations. South coast air inspectors for Chevron Refinery are joining us on 20<sup>th</sup> to do some air emission work as part of our inspection. Thanks.

I plan to get the training slides to you later in the week. do you have a portal for me to upload large files? Thanks.

sharon

**From:** Forman, Glenn@DTSC [mailto:Glenn.Forman@dtsc.ca.gov]  
**Sent:** Thursday, April 06, 2017 2:37 PM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Subject:** RE: Refinery Training in Chatsworth

Hi Sharon,

Do you have a number for the amount of people that will be allowed on the refinery tour on Wednesday the 18<sup>th</sup>?

Let me know,

g

**From:** Lin, Sharon [mailto:Lin.Sharon@epa.gov]  
**Sent:** Tuesday, March 21, 2017 4:13 PM  
**To:** Forman, Glenn@DTSC  
**Subject:** RE: Refinery Training in Chatsworth



We plan a full day of training 9am-5pm. Would you please let me know the address and room number for the training? I plan to send you a draft agenda by the end of this week for your review. We are working on the presentation slides (power point). We will send you a set of training slides when it gets closer.

What is your recommendation for lunch? How long should we allow for lunch? Should we do order in? please advise. Thanks!

sharon

**From:** Forman, Glenn@DTSC [<mailto:Glenn.Forman@dtsc.ca.gov>]  
**Sent:** Tuesday, March 21, 2017 12:00 PM  
**To:** Lin, Sharon <[Lin.Sharon@epa.gov](mailto:Lin.Sharon@epa.gov)>  
**Subject:** Refinery Training in Chatsworth

Hi Sharon,

Do you know what time you'd like this training to begin on April 17?

Is there an agenda yet. I could send it to the other regional offices before the training if you like.

The room has teleconference capabilities. Is there a power point or video you will be using for the training? If I can get it before the session I can load it to make sure everything is functioning.

My understanding is that this training is to be broadcast to all of our field offices. Let me know if I'm wrong (I often am).

Talk soon,

g

Glenn Forman, Senior Environmental Scientist

Department of Toxic Substances Control

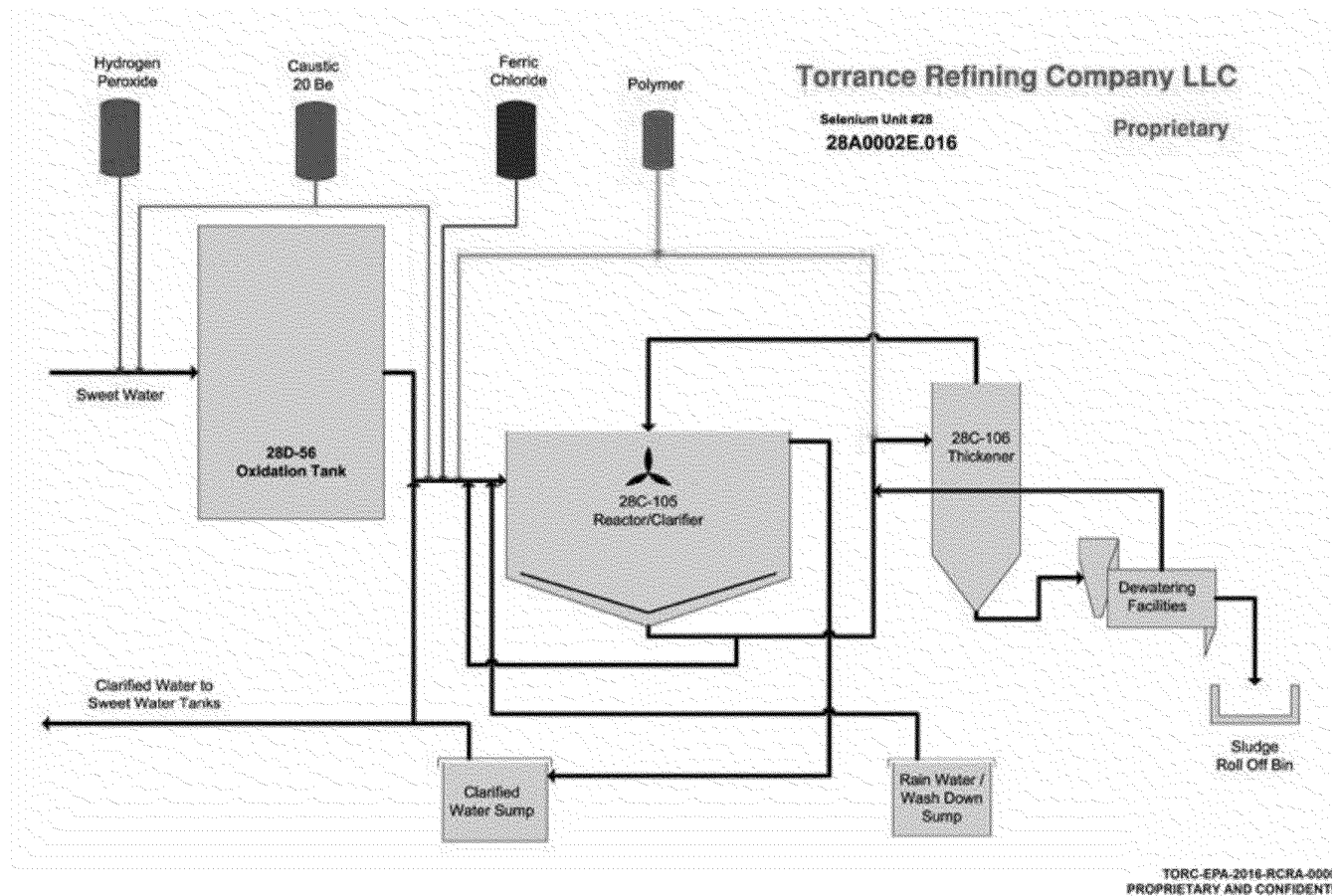
9211 Oakdale Ave, Chatsworth, CA 91311

**To:** Arora, Asha@DTSC[Asha.Arora@dtsc.ca.gov]  
**Cc:** Peebler, Diana@DTSC[Diana.Peebler@dtsc.ca.gov]; Soria, Maria@DTSC[Maria.Soria@dtsc.ca.gov]  
**From:** Lin, Sharon  
**Sent:** Tue 3/14/2017 7:18:20 PM  
**Subject:** review write up for EPA inspection for torrance refinery

**ENFORCEMENT CONFIDENTIAL:**

Hi, Asha,

Could you help me review the write up below for the selenium treatment unit at Torrance refinery? This would be a California only violation. I am hoping to complete my inspection report by the end of this month. Thanks so much for your help.



Violation	Regulatory Citation	EPA Notes:
Treatment without a permit	<p><i>Title 22 §66261.24</i></p> <p><i>HSC §25200.3(a)</i></p>	<p><b>Torrance refinery has been performing an unauthorized treatment of hazardous wastes since 2005.</b></p> <p>Torrance refinery operates a selenium unit as a “conditionally authorized (CA)” unit under the California Tiered Permitting program. The purpose of the SRU is to reduce the selenium concentration in the process wastewater from the sour water stripper.</p> <p>Hydrogen peroxide is added to treat the H<sub>2</sub>S in the</p>

		<p>sour water. Then caustic is added to adjust the pH in the water. Then polymer (ferric chloride) is added to precipitate out the selenium metals in the water. The treated water is discharged through the Del Amo outfall which is operated under an industrial wastewater discharge permit issued by the Los Angeles County Sanitation Districts. The solids go through a 2 phase centrifuge managed by PSC, contractor to the Torrance refinery. The solids portion is tested and shipped off site as California only hazardous waste.</p> <p>The chemical process of oxidation (adding hydrogen peroxide to an aqueous waste) is not one of the treatments authorized for the CA under the HSC §25200.3(a). Therefore, the refinery has been operating an unauthorized/illegal hazardous waste treatment unit.</p>
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**To:** Ahmad, Waqar@DTSC[Waqar.Ahmad@dtsc.ca.gov]  
**Cc:** Puljiz, Michelle@DTSC[Michelle.Puljiz@dtsc.ca.gov]  
**From:** Lin, Sharon  
**Sent:** Wed 4/27/2016 11:23:10 PM  
**Subject:** RE: Shell Martinez Refinery Biotreater document / DTSC approval letter

Thanks!

**From:** Ahmad, Waqar@DTSC [mailto:Waqar.Ahmad@dtsc.ca.gov]  
**Sent:** Wednesday, April 27, 2016 4:18 PM  
**To:** Lin, Sharon <Lin.Sharon@epa.gov>  
**Cc:** Puljiz, Michelle@DTSC <Michelle.Puljiz@dtsc.ca.gov>  
**Subject:** RE: Shell Martinez Refinery Biotreater document / DTSC approval letter

Hi Sharon:

Enclosed are minutes of the meeting that was held on June 5, 2003 between the Department and the Facility. Also included are approval letter for the delay of biotreater and modified RCRA permit.

Let me know if you need anything else.

Waqar

**From:** Lin, Sharon [mailto:Lin.Sharon@epa.gov]  
**Sent:** Wednesday, April 27, 2016 3:44 PM  
**To:** Ahmad, Waqar@DTSC; Puljiz, Michelle@DTSC  
**Cc:** Schofield, John  
**Subject:** Shell Martinez Refinery Biotreater document / DTSC approval letter

Hi, Waqar and Michelle,

Thanks for hosting me and providing me with the documents related to the Shell Martinez Biotreater. I reviewed the report (application for exemption from the requirements to retrofit the biotreater) and the engineering report. My attorney would like to know if you could provide us with the DTSC approval letter for this exemption. I didn't see it in the boxes of the files while I was in your office, but I could have missed it. Please advise. Thanks.

Sharon